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**THE UNIVERSITY OF HONG KONG**

**GATED COMMUNITIES –  
A HONG KONG EMPIRICAL STUDY**

**A DISSERTATION SUBMITTED TO  
THE FACULTY OF ARCHITECTURE  
IN CANDIDACY FOR THE DEGREE OF  
BACHELOR OF SCIENCE IN SURVEYING**

**DEPARTMENT OF REAL ESTATE AND CONSTRUCTION**

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**HONG KONG**

**APRIL 2009**

## **DECLARATION**

I declare that this dissertation represents my own work, except where due to acknowledgment is made, and that it has not been previously included in a thesis, dissertation or report submitted to this University or to any other institution for a degree, diploma or other qualification.

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## **ABBREVIATIONS**

BD	Buildings Department
CLUB	Clubhouse
CRIME	Crime level
DCD	District Council District
ECA	Electoral Affairs Commission
GC	Gated community
GIC	Government, Institution and Community
HKCVS	Hong Kong Crime Victimization Surveys
HKPF	Hong Kong Police Force
HKSAR	Hong Kong Special Administrative Region
LD	Lands Department
PD	Police District
POS	Public open spaces
PTT	Public Transport Terminus
PRICE	Average transaction price
RHKP	Royal Hong Kong Police Force
RVD	Rating and Valuation Department
UNIT	Average size of units within a development

## ABSTRACT

As an original contribution to the study of gated communities in Hong Kong, inspired by the work of Lai (2006) on sustainable development and property rights, this dissertation fathoms the possible reasons for the formation of a gated community in Hong Kong.

A data set on 61 for a total of 84 residential developments were identified from the government publication, *“Provision of Facilities and/or Open Space required under lease for the use by the public in private developments completed in or after 1987 (as at October 2008)”*, published as an aftermath to a press conference on the research findings of a Public Policy Research Grant project on planning conditions by Professor Lawrence Lai on compliance with planning conditions.

Field inspection was conducted to locate and assess the “openness” of the relevant development projects. All project developments were classified into two categories according to the developer’s intention to privatize/enclose public facilities and/or open space.

Proxies were used to measure human behaviours leading to the formation of a gated community and assumptions made to ensure their validity. Those proxies were then fitted into a probit model to evaluate the possible reasons as to why developers “fortify” their developments.

The results reveal that the residents' "demand for higher status" "demand for higher privacy" were the momentums for the formation of gated communities. On the other hand, residents' "demand for better security" and "demand for higher privilege and extra exclusivity" were not the reasons for forming gated communities. Most interestingly, there are signs that the concept of gating communities is dropping out of fashion.

Table (A): Summary Results for the Five Hypotheses

<b>Hypotheses testing the reasons for the formation of a gated community</b>	<b>Test Results</b>	<b>Theoretical Implications</b>
I. A development with higher average transaction price is associated with a greater likelihood of being a gated community than one with a lower average transaction price	Hypothesis is not refuted	Satisfying peoples' demand for higher status is a reason for a developer to form a gated community
II. A development with a larger average unit size is associated with a greater likelihood of being a gated community than one with a smaller average unit size	Hypothesis is not refuted	Satisfying peoples' demand for higher privacy is a reason for a developer to form a gated community
III. A development located in an area with a high crime level is associated with a greater likelihood of being a gated community than one located in area with a low crime level	Hypothesis is refuted	There is no evidence to prove that satisfying peoples' demand for security is a reason for a developer to form a gated community
IV. A development with a clubhouse is associated with a greater likelihood of being a gated community than one without a clubhouse	Hypothesis is refuted	There is no evidence to prove that satisfying peoples' demand for higher privilege and extra exclusivity is a reason for a developer to form a gated community
V. A recent development is associated with a greater likelihood of being a gated community than an older one.	Hypothesis is refuted	There is no evidence to prove that the intention for developers to privatize public facilities and open space is proliferating in Hong Kong



# **CHAPTER 1**

## **INTRODUCTION**

The idea of gated communities has a long history which can be dated back to ancient times. From a macroscopic perspective, gated communities can refer to a large city isolated from the neighboring cities. Ancient China provides a vivid example to manifest this phenomenon. In the old days, gates in China served mainly for the purpose of defense in order to exclude intruders and get rid of externalities. The “Great Wall” was one of the examples that showcase the significance of gates to a city and an empire. The Great Wall of China was built at the time when the first China's emperor, Chinshihuang finished conquering all the kingdoms. It functioned to protect the northern borders of the Chinese Empire from the Hun's and Mongolian intrusion during his sovereignty. Although the Great Wall was built for the purpose of defence, it simultaneously functioned as a prosperity symbol of the empire. On the other hand, the Berlin Wall in Germany was another concrete example of gates. It functioned to bisect Germany into two parts so as to distinguish the opposing camps. Its nature was more or less the same as the Great Wall.

One may argue that these two examples did not demonstrate the verity of a gated community. Yet they did outline the gist of gated communities -- Exclusion. Of course, exclusion is only a generic explanation to the formation of a gated community. There should be other attributes

leading to their formation. Also, the examples illustrated above apply on a country basis. Gated communities, on the other hand, can be much smaller in scale. A residential development with a single block of building would suffice to be regarded as a “gated community in miniature”. Hence, from the size of a country to a borough, the idea of the gated community still applies. In order to claim a particular development as a gated community, the foremost factor is to look at the “intention” of people inside the gates and the “perception” of people outside the gates.

### **Background of Gated Communities**

During the centuries, gated communities have undergone drastic and immense metamorphosis. Centuries ago, states and cities were surrounded by barricades and walls. The primary function of those barriers was to protect the city’s inhabitants from the surrounding undesirables. Gated communities, an evolution of the ancient walled cities, have become one of the most common types of subdivisions to be found in areas of many countries and metropolitan areas. Robust evidence has unveiled that the formation of gated communities is a global phenomenon. They can be found in various forms in different countries, like Argentina, Brazil, India, Malaysia, Spain, the United Kingdom and the United States. While there are similarities between gated communities throughout the world, distinctions can still be found for gated communities located in different geographical locations and under various cultures and conventions.

## Research Context

This research originates from the study on the compliance with planning conditions by Lai, Ho, and Leung (2005); Lai et al. (2007). The most recent study by Lai, after a press conference held at HKU in January 2008, attracted media attention and generated several follow up research projects (Chow 2008; Lai et al. 2009 forthcoming; Lai, Liu, and Yung 2009 forthcoming) and led to the publication by the Works Bureau, in response to public pressure, of “*Provision of Facilities and/or Open Space required under lease for the use by the public in private developments completed in or after 1987 (as at October 2008)*”. The study by Professor Lai and others points to the fact that many development projects are segregated from the public, and thus “gated” in that sense, not just physically but mentally. It is with the encouragement of and funding support by Lai that this dissertation is formulated with a view to understand better the nature of newly planned residential development in Hong Kong.

The idea of gated communities is an important subject in the planning field. Local planning research is still in its infancy though the phenomenon of the spread of gated communities in the Pearl River Delta has been pointed out by Lai (2006) in a discussion of sustainable development. Inspired by his analysis which raises the question as to the property rights rationale for “closing” and “opening”, this dissertation examines whether the formation of gated communities is a hindrance in achieving sustainability from the social point of view. Looking at the

gated communities in Hong Kong, we are able to get a more thorough picture of how local planning authorities have responded to the change and enable us to understand the possible effects of this phenomenon in the context of sustainability.

The primary purpose of this study is to explore the factors leading to the formation of a gated community and find out if there is a trend for fortifying private residential developments in Hong Kong using a statistical model with reference to the data obtained from the Works Bureau. The *prima facie* function of the gates under study may be as simple as entry barriers. However, these urban enclaves actually have far-reaching social implications which deserve a careful analysis. Therefore, this study should serve to provide points of reference for public officials, policymakers, educators, and the general public to discuss this global phenomenon and work out solutions for attaining urban sustainability.

There are many foreign studies that have been carried out. But no study has been conducted in Hong Kong regarding the factors for the formation of gated communities. Hence, this dissertation should make a contribution to the study of the gated communities by:

- I. Serving as a pioneer study on gated communities in Hong Kong
- II. Formulating new concepts underpinning gated communities in Hong Kong
- III. Testing if certain well known determinants causing gated

communities in foreign countries apply also to Hong Kong

#### IV. Finding out if there is a trend of forming gated communities in Hong Kong

### **Organization of the Dissertation**

The style of this dissertation follows that of the Chicago Manual of Style as described in the book by Kate L. Turabian. (Turabian 1996)

This dissertation consists of five chapters. After the introduction in chapter one, chapter two, which is the literature review, introduces the idea of gated communities, defines the key terms used in the dissertation, the background information of gated communities in foreign countries and the concept of gated communities in Hong Kong. The chapter also proposes a new definition of a gated community which is unique to the situation in Hong Kong. Chapter three describes hypotheses to be examined and the methodology employed, provides a basic outline of the Probit model and the methods of collecting data. In chapter four, various human behaviours such as the demand for higher status, demand for higher privacy, demand for higher privilege and extra exclusivity, demand for security are tested to see if they are the determinants for the formation of gated communities. Meanwhile, the analysis tries to find out if there is a trend of forming gated communities in Hong Kong. A Probit model is used to test the determinants and the corresponding results are interpreted and discussed in the chapter. Finally, chapter five concludes this dissertation and outlines the limitations of the study.

## **CHAPTER 2**

### **LITERATURE REVIEW**

Boundaries exist everywhere. From the legal and administration perspective, lands in Hong Kong are delineated into lots. This kind of demarcation is “implicit and intangible” as the “boundaries” are shown on statutory plans and title documents only. From the social and management perspective, boundaries of each parcel of land is further segregated by means of “physical and tangible” barriers such as, gates, fences, walls, etc. The existence of boundaries is the foremost element underpinning the formation of gated communities. At present, there is no common agreement on the definition or meaning of gated communities. It is generally accepted that the forms and characters of gated communities may vary according to different cultural, economical and political background.

#### **Gated Communities in Foreign Countries**

The pioneer researchers on gated communities were Blakely and Snyder who looked at the gated phenomenon in America. They published multiple journals and articles regarding gated communities and emphasized research problems and social issues in gated communities. Their efforts became a cornerstone underpinning the study of gated communities. There is a vast literature on the phenomenon of gated communities in the US and European countries. However, until now, there is no such literature based upon the situation in Hong Kong.

## **Definition of the Gated Community**

Literally, the definition of a gated community usually came from two different perspectives. Although there are two strains of thought, they are not mutually exclusive. One side of this definition emphasized the security nature of gated communities while the other described their self-contained nature. Hence, every gated community should possess these two indispensable elements. Developments that are lacking in one of these elements should therefore fail to be claimed as a gated community.

The security aspect stresses the high level of security measures possessed by the development which serves to safeguard the life and properties of residents living within the gates. These 'gates' exist in various forms, sizes and styles. Yet, they possess the same function to exclude externalities such as strangers, thieves and trespassers. Examples include the use of gates, bars, walls and fences, electronic security door with password, surveillance camera, speed bumps and security guards. Each 'gate' functions to exclude a particular type of target (human and/or vehicles) and they also differ in efficiency. Examples of definition focusing on the security aspect are as follows:

*“a gated community is a housing development on private roads closed to general traffic by a gate across the primary access. The developments may be surrounded by fences, walls, or other natural barriers that further limit public access.”* (Grant J 2004, p.913 - 914) and (Grant 2005, p.276)

*“A gated community is – very easily put – a community surrounded by a fence and provided with a gate for entrance”* (Aalbers 2003, p.2)

*“Gated communities refer to a physical area that is fenced or walled off from its surroundings. Entrance into these areas, are prohibit or controlled by means of gates or booms.”* (Landman 2000, p.1)

The above definitions are not holistic enough as they fail to articulate the self-contained nature of a gated community. From the definition, readers are told that a gated community has all sort or barriers which function to restrict access. Although these definitions shed light on the idea of accessibility, one important components of gated community is still missing. The full-scale of privatized public spaces, facilities and amenities available within the gates is also one of the requisites to portray a gated community. For this reason, other types of definition which emphasize the self-contained nature of a gated community can be found in the literatures. Examples include:



*“Gated communities have an explicit boundary, access by non-residents is restricted, the development is usually managed by the residents, and there are legal constraints on residents’ behaviour and use of their properties.”* (Blandy and Lister 2005, p.287)

*“Gated communities restrict access not just to resident’s homes, but also to the use of public spaces and services – roads, parks, facilities and open space – contained within the enclosure”* (Low 2003, p.12)

*“Gated communities are residential areas with restricted access in which normally public spaces are privatized. They are security developments with designed perimeters, usually walls or fences, and controlled entrances that are intended to prevent penetration by nonresidents”* (Blakely and Snyder 1997, p.2)

We can see that the definitions from Blandy and Lister (2005), Low (2003) and Blakely and Snyder (1997) can provide a more comprehensive picture of a gated community with the idea of security, the operation and the self-contained nature of the gated community involved. From their definitions, we can see that privatization of open space and public facilities are key features of a gated community. Also, residents within the gates are provided with a variety of shops, facilities and amenities. Therefore, a gated community to a certain extent resembles a small city that is segregated from the rest of society.

The above-mentioned definitions have depicted the basic concept of gated communities. Yet, it does not imply that those definitions are absolute and were applicable to every situation. To facilitate the study of a gated community in Hong Kong, a unique definition is formulated in a later section of this chapter.

### **History of Gated Communities**

In much of the previous literature, scholars have documented the rise of gated communities in different parts of the world. This global phenomenon is a spontaneous one and it has spread rapidly throughout the world. (Webster, Glasze, and Frantz 2002)

In England, the earliest gated cities were built by the occupying Romans around 300 BC and the first walled cities in the New World were Spanish fort towns in the Caribbean (Blakely and Snyder 1998). However, these kinds of gated communities were very different from the gated subdivisions found today. In the late 1960s and 1970s, the shape of the first contemporary gated community began to emerge in America (Blakely and Snyder 1997). Until the late 1980s, more and more residential areas were closed off and privatized in America (Blakely and Snyder 1997). In China a similar trend was observed. The privatization of residential areas began right after the 1978 economic reform (Miao 2003). Lai (2006), in his study, also documented some key gated communities in the Pearl River Delta.

The phenomenon of gated communities is also proliferating in other countries, for example Spain, Russia, Turkey, Egypt, Syria, Indonesia, Argentina, Brazil and South Africa (Landman 2000). Although the early documentation of a gated community came from America (Blakely and Snyder 1997; Le Goix 2005; Low 2003), gated communities are appearing in many countries. Examples include Argentina (Coy and Pohler 2002; Roitman 2005; Thuillier 2005), Australia (Burke 2001), Brazil (Carvalho, George, and Anthony 1997; Coy and Pohler 2002), South Africa (Jurgens and Gnad 2002), Britain (Blandy and Research 2003; Blandy and Lister 2005; Gooblar 2002; Housing and Smith-Bowers 2004), Dutch (Aalbers 2003), Chile (Salcedo and Torres 2004), China (Miao 2003; Wu and Webber 2004) and Canada (Grant 2005).

### **Reasons for the Emergence of the Gated Communities**

Roitman (2005) classified the reasons for the formation of gated communities into two major categories. The first one is *structural* which is relatively passive and driven by external forces. The latter one is *subjective* which is voluntary and is a direct consequence of human behaviour. Fear of crime, change in cultures and norms has become the driving force for the first category. In contrast, an objective to achieve a higher privilege, privacy and status has resulted in the latter type of formation of gated communities.

### *Structural reasons*

#### Fear of crime and search for security

Many authors reaffirm the proposition of security as the prime factor that result in the formation of gated communities. (Table 2.1) People who are looking for “peace of mind” see a gated community as an unrivalled choice. They regard a gated community as a solution to take refuge from prostitutes, drug users, drug dealers, bums and other undesirables from their direct surroundings (Aalbers 2003).

People place great emphasis on the security offered by the gated community simply because the sense of security provided by local regulations and ordinances are not pragmatic enough (Low 2003). They only deter the occurrence of crime through psychological manipulation. Hence, the effectiveness and practicability of such measures is questionable. People who are looking for a higher level of security would prefer to erect those physical and tangible gates which can provide an appreciable level of watch and ward protection. From the residents’ point of view, these fences and barricades are more reliable and can significantly enhance the security level by excluding thieves and trespassers.

This argument is supported by many studies which have revealed that ‘greater security’ is of overriding importance for those who preferred gated communities. (Blandy and Research 2003; Carvalho, George, and

Anthony 1997; Coy and Pohler 2002; Housing and Smith-Bowers 2004; Low 2001; Miao 2003; Roitman 2005; Wu and Webber 2004).

Despite the tendency for people to look for gated developments in pursue for “better” security. Whether living in a gated community is an appropriate choice is subject to individual perception and interpretation. It is because extra security is usually associated with certain kinds of trade-off (e.g. low sense of community) which people did not take into account. Details of these trade-offs are discussed later in this chapter.

Table 2.1: Researches related to security in gated communities

<b>Author (Year)</b>	<b>Methodology</b>	<b>Summary of empirical findings</b>
Carvalho et al. (1997)	Questionnaire and Interviews	Security rank first among peoples’ motivation to move into GCs.
Low (2001)	Open-ended interviews	Eighteen of the twenty respondents mentioned search for a sense of safety and security is a reason to choose GCs. People did feel safer and more secure with the addition of gates, walls, and guards.
Coy and Pohler (2002)	Interviews	77% of 123 respondents mentioned “better security” to be the most important advantage of living in a GC.
Housing and Smith-Bowers (2004)	Interviews	94% of respondents consider ‘better safety and security’ as the main benefit in a gated community; 65% of respondents consider safety and security are the reasons for moving into very sheltered accommodation.

Roitman (2005)	Interviews	70% of respondents mentioned security as the reason why they moved to a GC.
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### A marketing strategy for a developer to stay in the market

In order to survive in the competitive property market and stay ahead of other competitors, developers have to search for extraordinary promotion strategies to differentiate their products and to meet the changing taste of the consumers. Hence, developers have to emphasize the quality of materials used and the extra amenities provided by their projects so as to attract potential buyers. Extra security (e.g. gates, 24 hours security guard patrolling services, surveillance camera) and the splendid decoration of the external façade undoubtedly satisfy the sense of vanity and identity of the affluent buyers. For this reason, developers see gated projects as an important niche marketing strategy in a competitive environment (Aalbers 2003; Coy and Pohler 2002; Grant J 2004). Therefore, the gated community represents an especially dynamic real estate product with a high return on capital (Coy and Pohler 2002).

In the wake of the rising “norm” for a gated community and consumers’ comparative behaviours, developers can do nothing but comply with the market trend so as not to loss their market shares. Consumers’ strong demand for gated environments has triggered developers to response by incorporating gates and various kind of security devices in the architecture of the buildings. This explains why

developers have a high incentive to build gated projects in many countries.

On the other hand, the thrust behind it that drives property developers to construct such a gated community is the monetary return associate with the “extra security” they provide to the buyers. In order to capture a higher return on the development, developers who wish to maximize their profit will be pleased to follow the mainstream. Table 2.2 shows the researches regarding the effects of the gated community on marketing.

Table 2.2: Researches related to marketing of gated communities

<b>Author (Year)</b>	<b>Effect of GC on marketing</b>	<b>Reasons</b>
Aalbers (2003)	Positive	Residents considered the word “community” as a positive side of living in a GC.
Grant J (2004)	Positive	GC can attract consumers searching for a sense of community, identity, and security.
Coy and Pohler (2002)	Positive	GC is depicted as a self-sufficient segregated housing scheme with an ‘innovative’ lifestyle of the rich and very rich (i.e. a symbol of status)

### *Subjective reasons*

#### A symbol of high status and searching for privacy

Apart from searching for a safe habitat, higher status is also another factor causing people to choose a gated community (Blandy and Research 2003; Wu and Webber 2004). The gates are analogous to a sign that displays the status and wealth of the people living inside (Grant 2005; Roitman 2005). Thus, people would prefer to move into the gated communities in pursuit of status differentiation.

One the other hand, people move to gated enclaves in search of privacy and exclusivity (Dillon, 1994; Low, 2001; Wilson-Doenges, 2000). This concept is shared by various writers on gated communities such as Grant (2005); Manzi and Smith-Bowers (2005). People believe that a gated development allows higher degree of privacy as compare with those non-gated developments. However, this is only a kind of perception because there is no study showing that gated developments can result in privacy improvement. Although peoples' demand for privacy may not be a dominant factor leading to the formation of a gated community, residents still consider extra privacy as an indispensable advantage offer by the gates. Hence, its effects on the formation of gated communities should not be ignored. Table 2.3 shows the studies done by scholars related to the status and privacy offered by a gated community.



Table 2.3: Researches related to status and privacy issues of gated communities

<b>Author (Year)</b>	<b>Methodology</b>	<b>Summary of empirical findings</b>
Carvalho et al. (1997)	Questionnaire and Interviews	Privacy ranked from 2 to 4 among peoples' satisfaction to GC
Wu and Webber (2004)	Comparative study	The formation of foreign gated communities is attributed to the differentiation of social status
Grant (2005)	Email survey	Most planners believed that the GC is an attractive alternative for those seeking privacy and quiet
Roitman (2005)	Interviews	70% of residents mentioned security as the reason to move to a GC to protect their privacy

#### A way to increase property value

Apart from the above mentioned determinants for the formation of gated communities, there are researches studying the relationship of gated communities and residential property value. (Table 2.4) Studies have shown that gating does add value to property prices. An interview done by Blandy and Lister (2005) showed that maintenance of property values is the most important reason for moving to a gated development. Also, it has recorded that developers have received a 20 to 30 percent increase in lot value after the introduction of gates into the development (Dillon 1994). The studies done by Bible and Hsieh (2001) suggested that

homes in gated communities have approximately 6.07% increase in their sale price when compared with non-gated homes (Bible and Hsieh 2001). Although the degree and extent of the increase in property value is subject to other variables, its effect on the property price is always positive. Thus, there are specific and measurable benefits of owning a home in a gated community (Bible and Hsieh 2001).

Protection of property values for a gated development is achieved by interaction with a myriad of factors. Their relationship is illustrated in Figure 2.1. Commentators believed that by providing beautiful amenities and keeping out undesirables, gating may increase property values (Bible and Hsieh 2001; Lacour-Little and Malpezzi 2001; Le Goix 2007). On the other hand, Le Goix (2005) pointed out that a gated community can protect property values through design policies and Covenants, Conditions and Restrictions on the management of the privatized facilities.

Providing in-house facilities is not the only reason to increase the property value of gated developments. The benefits of the gates (e.g. extra security, higher privacy and status) are capitalized into the housing price which allows the developer to charge a premium on the purchaser. With this in mind, it is reasonable to suggest that gated developments are generally those developments that command a higher price per unit floor area as the benefits are reflected in the price. The case study done by Coy and Pohler (2002) has also set forth this argument. This explains why a gated community functions as a means to increase property value.

Table 2.4: Researches related to property value in gated communities

<b>Author (Year)</b>	<b>Methodology</b>	<b>Summary of empirical findings</b>
Dillon (1994)	Interview with developer	20 to 30 percent increase in lot value after the introduction of gates into the development.
Bible and Hsieh (2001)	Hedonic pricing methodology	Homes in gated communities have approximately 6.07% increase in their sale price when compared with non-gated homes.
Lacour-Little and Malpezzi (2001)	Hedonic regression.	Houses in gated areas command a 26% price premium compared to houses on completely unrestricted streets
Blandy and Lister (2005)	Questionnaire	Most respondents (69.6%) considered maintenance of property values as most important reasons for moving to a GC
Le Goix (2007)	Simple comparative methodology	GC prices showed better strength to real estate market fluctuations than prices for regular residential neighborhoods and non-gated CIDs.

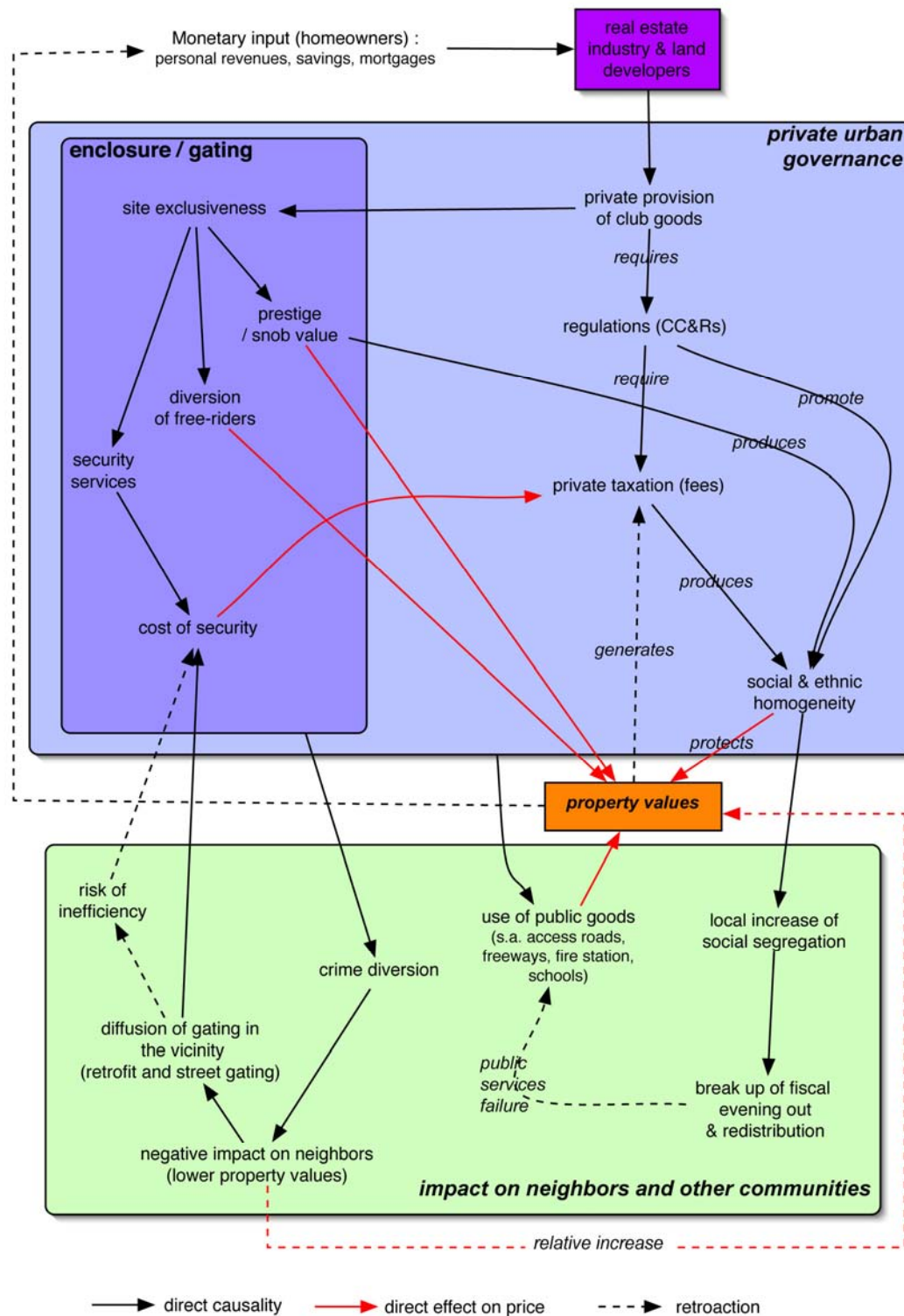


Figure 2.1: A systemic approach to protect property values in a GC

Source: The impact of gated Communities on property values: evidence of changes in real estate markets -Los Angeles, 1980-2000 Available at: <http://www.cybergeo.eu/image.php?source=docannexe/image/6225/img-1-small640.jpg&titlepos=down> [Accessed 01/03/2009]

### A tactic to resist taxation

The gated community is seen as a tactic for local residents to evade the tax payable to the government for using the public services. It is because certain public services which are supposed to be provided by the government are also available within the gates. In other words, people are in fact paying double for the same kind of services that they enjoy. They called for a tax rebate as they did not benefit from any of those municipal services. Hence, the formation of a gated community is believed to have a significant impact on the local fiscal governance since it is regarded as a solution to opt out of local service provision, and then attempt to opt out of or reduce the payment of local taxes (Blandy and Research 2003 ; Landman 2000). However, this situation only applies in US. Property tax refunds are not applicable in most countries (Gooblar 2002).

### A way to secure privileges in the use of private facilities

Gated communities offer a strong protection for residents' privileges. One of the key features of gated communities is that they are governed by developers or homeowner associations, some of these are shared with other forms of private government (Pack 1992). Owing to the existence of property right and management organization, gated communities provide a sound basis for people to exclude outsiders from enjoying or exploiting the resources within the gates. Although property rights refer to three distinct sets of rights: (1) the exclusive right to use (or

not use) a resource; (2) the exclusive right to derive (or not derive) any income from the use of a resource; and (3) the exclusive right to alienate, combine, and partition one's use and income rights (and the right not to do so) (Lai 2006), residents in a gated community have fully exercised their right to exclude in reality. They did not exercise their right of not to exclude which they possess at the same time. They want to secure their exclusive privilege of using the private facilities. The reason is simply because the cost of constructing and maintaining these structures are borne by them. So, they do not want outsiders to share their private resources such as the swimming pool, gym room and other form of club facilities which will accelerate their depreciation.

Manzi and Smith-Bowers (2005), Housing and Smith-Bowers (2004) and Wu and Webber (2004) use the idea of "club goods" to study the nature of gated communities. The earliest concept of a club good can be found in the work of Buchanan (1965). A "club good" is a hybrid of the purely public and the purely private goods which allowed the club members the enjoyment of the benefit but was unlike the private good which is limited to the individual or shared by all in the case of the public good (Manzi and Smith-Bowers 2005). The club theory explained why gated developments can provide high privileges to residents as club facilities only serve "club members" and allows the exclusion of outsiders.

However, the idea of a club benefit is not as good as it appears to be. Living in gated communities is allied with a vow of continuous

involvement in the management work that may consume great deal of time and effort which most people ignored. This explains why Atkinson and Blandy (2005) criticize the use of club theory to explain the phenomenon of gated communities for it only focuses on the rights of people and fails to represent the obligations which come along at the same time.

To fill up the gap of club theory, Atkinson and Blandy (2005) introduces the concept of a legal framework in the study of a gated community. Living in a gated community is not as simple as joining a “Club”. Residing in these urban enclaves is simply equivalent to signing a legal contract. The offer may be extra security, higher property value, and greater convenience enjoyed by residents. Upon agreement, residents are bound by the contract and have to comply with the covenants and regulations which state clearly their obligations to manage the common parts of the development jointly. Le Goix (2005) uses the term “Common Interest Developments” to describe gated communities to show that all residents within the gates have to bear the responsibility to manage the “common parts via the formation of homeowner association or employment of Management Company. So, there are always obligations associated with the privilege and exclusive use of resources within the gated community.

## **The Elements of a Gated Community**

As mentioned before, security is one of the prerequisites to distinguish a gated community. Therefore, barriers which exist in various form, scale and style can always be recognized in gated communities. Scholars have identified some of the common features and elements that constitute a gated community (Blakely and Snyder 1997; Grant J 2004; Roitman 2005). They can generally be categorized into two types: Type 1 is for the exclusion of non-residents and type 2 is for the exclusion of traffic. They are illustrated in the following photographs:

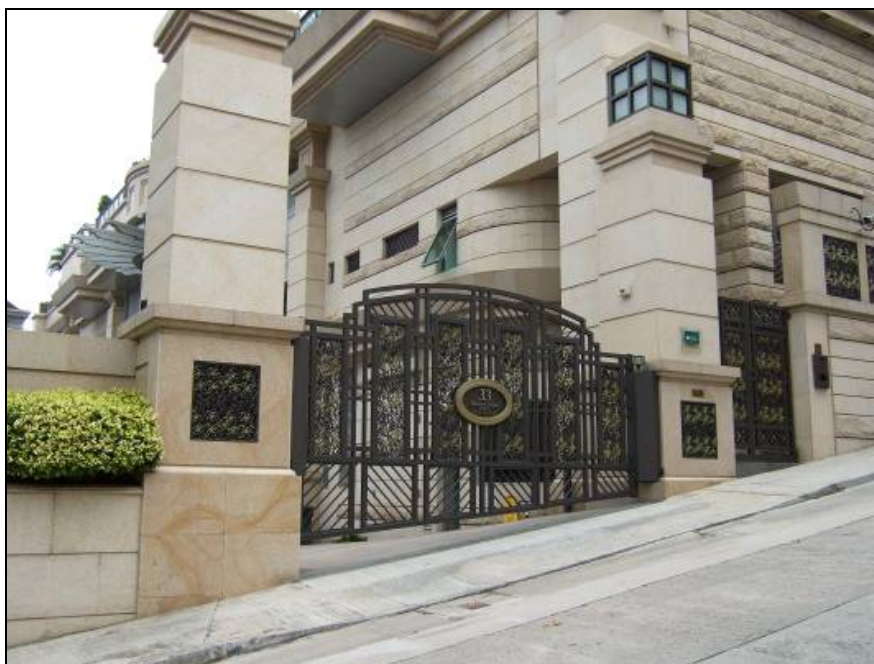
### Type 1:

1. Gates and fences
2. Walls topped with barbed wire.
3. Surveillance camera
4. Security guard and guard houses
5. Plantation and hedges
6. Keypad systems at entrance
7. Sign stating that it is a private property

### Type 2:

1. Speed bumps
2. Signs advertising private road
3. Pavement with materials consistent with the development





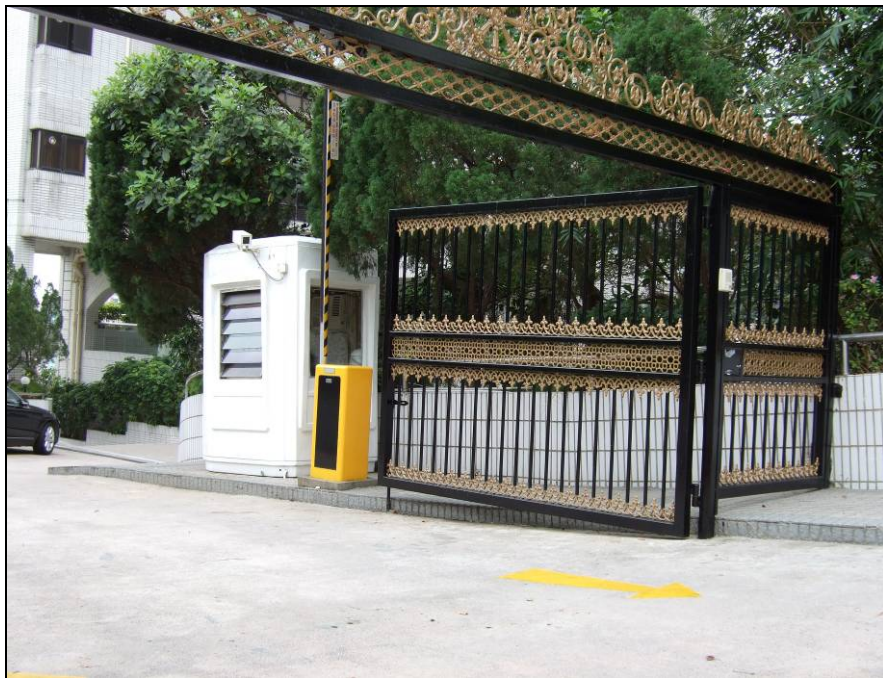
Photograph 1: Development with gates and fences  
Name of development: 33 Island Road  
(Photograph taken on: 5/3/2009)



Photograph 2: Development with barbed wire on external wall  
Name of development: Villa Rosa  
(Photograph taken on: 5/3/2009)



Photograph 3: Surveillance camera installed within a development  
Name of development: South Horizons  
(Date taken: 5/3/2009)



Photograph 4: Guard house located at the entrance of a development  
Name of development: Bowen Place  
(Photograph taken on: 5/3/2009)





Photograph 5: Development with plantation and hedges  
Name of development: Bowen's Lookout  
(Photograph taken on: 5/3/2009)



Photograph 6: Keypad systems at entrance of a development  
Name of development: J Residence  
(Photograph taken on: 5/3/2009)



Photograph 7: Development with sign stating that it is a private property  
Name of development: Lok Hin Terrace  
(Photograph taken on: 5/3/2009)



Photograph 8: Development with speed bump  
Name of development: The Brentwood  
(Photograph taken on: 5/3/2009)





Photograph 9: Development with sign advertising private road  
 Name of development: The Brentwood  
 (Photograph taken on: 5/3/2009)



Photograph 10: Development with pavement materials consistent with the  
 building  
 Name of development: Le Sommet  
 (Photograph taken on: 5/3/2009)

The choice of barrier depends on the actual situation. The life cycle costs of the boundaries as well as their functional targets are important determinants in the choice of barriers. Some areas deserve more enclosed and state of the art security equipment while others do not. Within each type of barrier, it is further divided into tangible and intangible one. Tangible means that it deters ingress and egress physically while intangible achieve the same purpose psychologically.

### **Types of Gated Community**

To facilitate the study of gated communities, scholars have formulated a framework to categorize developments into various types of gated community. This formed an important structure underpinning the study of gated communities.

Typically, gated communities are categorized into the three types: lifestyle communities, prestige communities, and security-zone communities (Blakely & Snyder 1997). This typology was commonly adopted by scholars in the classification of gated developments (Bible and Hsieh 2001; Coy and Pohler 2002; Forrest and Kearns 2001; Jurgens and Gnad 2002; Lacour-Little and Malpezzi 2001; Le Goix 2005; Manzi and Smith-Bowers 2005). Understanding the above three types of gated community facilitates the further analysis of the local phenomenon in Hong Kong and assists in determining whether gated communities do exist in various developments.

Blakely and Snyder (1997) identified three types of gated community: lifestyle, prestige, and security zone communities. This typology is quite straightforward and is summarized by (Grant J 2004, p.914) in the following table:

Table 2.5: Types of gated community as classified by Blakely & Snyder (1997)

Type	Features	Subtypes	Characteristics
Lifestyle	These projects emphasize common amenities and cater to a leisure class with shared interests; may reflect small-town nostalgia; may be urban villages, luxury villages, or resort villages	Retirement	Age-related complexes with suite of amenities and activities
		Golf and leisure	Shared access to amenities for an active lifestyle
		Suburban new town	Master-planned project with suite of amenities and facilities; often in the Sunbelt
Prestige	These projects reflect desire for image, privacy, and control; they focus on exclusivity over community; few shared facilities and amenities	Enclaves of the rich and famous	secured and guarded privacy to restrict access for celebrities and very wealthy; attractive locations
		Top-fifth developments	secured access for the nouveau riche; often have guards
		Executive middle class	restricted access; usually without guards

Security Zone	These projects reflect fear; involve retrofitting fences and gates on public streets; controlling access	City perch	restricted public access in inner city area to limit crime or traffic
		Suburban perch	restricted public access in inner city area to limit crime or traffic
		Barricade perch	closed access to some streets to limit through traffic

For the lifestyle community, privacy rather than security is the key element that people want to pursue. This type of gated community was the first to spread and proliferate in the US (Blakely and Snyder 1997). The keystone for the formation of this type of gated community is the sharing of privatized amenities. People living there want to pursue a silence and undisturbed habitat with the absence of any form of disruption that may affect their normal life.

For the prestige community, it functions to showcase the status and wealth of the people within the development (Blakely and Snyder 1997). Although preserving privacy is one of the objectives for the prestige community, allowing image and standing out from the rest is a better explanation for its formation. Sense of community is not what residents are looking for. Instead, they wish to isolate themselves from the rest of society. They avoid the public so as to create an undisturbed and private living environment. They are mainly celebrities, tycoons



and businessmen who can pay for this privilege. Usually, prestige communities exist in a form of small clustered apartments in a chosen location.

The final type is the security zone communities. This kind of community is self-explanatory. Security is the prime and foremost reason for setting up the gates (Blakely and Snyder 1997). As mentioned by Grant J (2004), the idea to erect the barriers is initiated by residents rather than the developers. To prevent outsiders from gaining access to the inner part of the development, residents within the development requested the local authority to close off streets or enclose their proximal realm. Unlike other types of gated community, the gates or barricades in security zone communities are not for architecture and aesthetic purpose. Instead, they are erected functionally to deter crime, limit traffic, or offer protection against chaos.

Although the above typology provides a good insight on the classification of gated communities, it is too narrow and not conclusive. Developments in Hong Kong generally possessed multiple characters from these three types of gated communities. Therefore, it is difficult to sort Hong Kong's development simply based on this tripartite classification. To facilitate the study, this dissertation has coined a new set of typology by making reference to the actual situation in Hong Kong. The typology so formulated is based on the degree of openness and permeability of people within the development. Details are discussed later in this chapter.

## **The Effect of Gated Communities**

Gated communities have received diverse comments from scholars with different background and research interests. The effects caused by gated communities can generally be categorized under the following headings:

### *Social implications*

Some say that gated communities offer security and exclusivity. Others see them as nasty social dividers which are a hurdle to the harmony of society and result in those communities having little interaction or involvement with the rest of the city and society. The social implication of a gated community has received fierce debate by different commentators. Some scholars argue that social segregation is a natural phenomenon and it can preserve customs and lifestyles and strengthen mutual assistance between different groups of people (Manzi and Smith-Bowers 2005). Also, people of the same interest can have a much higher bargaining power due to the concentration of power within the gate. In the case of a gated community, social segregation allows the people within the gate to unite and a sense of belonging is developed within the urban enclave. However, from a macro view, social segregation weakens the bond of different groups in society and results in fragile patriotism. Hence, gates serve a double function of social inclusion and social exclusion as described by Aalbers (2003).

Writers hold different views over the proposition of gated communities and social impact. (Table 2.6) One main strain of scholars believes that the gated phenomenon can give rise to a myriad of social problems (Aalbers 2003; Blandy and Research 2003). Gated communities result in social segregation in terms of class, race and exclusivity (Coy and Pohler 2002; Jurgens and Gnad 2002; Landman 2000; Le Goix 2005; Low 2001). Roitman (2005) described urban social segregation as “*a social process that results in the detachment of certain individuals or social groups kept isolated by a limited or non-existent interaction with the rest of the society or with other social groups*”. (p.306) Gated communities bring about social segregation as a result of peoples’ demand for privacy and status differentiation. This discriminative process is exacerbated by the improper use of property right and is intensified by the erection physical barriers. Blandy and Lister (2005) use the term ‘them and us’ to portray the relationship developing both among residents of the gated communities, and of the surrounding neighborhoods. Their results have unanimously testified that gated communities exert a significant tension on the social integrity. At the same time, gated communities stigmatize those outside the gates and result in social disharmony (Gooblar 2002; Housing and Smith-Bowers 2004) . The end result is regeneration of a blighted area in urban society.

However, social exclusion and segregation is not the only effect from gates. Some writers, on the other hand, proposed that gated communities can actually foster social cohesion by involving a wide

spectrum of communities and income groups to create management vehicles so as to reduce crime, protect parked vehicles, increase safety and enhance the local environment by preventing unsolicited entry (Forrest and Kearns 2001; Manzi and Smith-Bowers 2005). Besides, it is suggested that collective management can bolster social harmony as everyone can participate and contribute to the community they are living in. However, studies done by (Blandy and Lister 2005) showed that this is a misperception. It is because people are generally reluctant to participate in the management of the gated communities.

Despite the paradox on the discussion of social segregation, it is important to find out who is the real group of “outcasts” in a gated community in order to get a thorough picture on its social effect. It is believed that the segregationist process has two sides and that both groups of people (within and outside the gates) feel segregated and discriminated against (Roitman 2005). In the past, those who have convicted a criminal offence were sentenced to prison or those who suffer from contagious diseases were sent to pest houses or isolated island where they are completely ignored and abandoned by the crowd. The rationale of these moves is a kind of remedial action to avoid putting the life of more people at stake. Those who are being isolated are referred to as “outcasts” because they are jeopardizing others lives. Nowadays, the situation has seen a dramatic turnabout. Those who consider themselves as elite and affluent groups prefer to isolate themselves from the social realm by erecting walls and gates to distinguish their extraordinary status. To acquire a higher degree of security, tranquility and privacy, they opt to

be the “outcasts”. This change creates social inequality within a community. As a consequence, this lead to the proliferation of gated communities and exacerbated the polarization of the rich and the poor which results in more severe income inequality. This undoubtedly turns out to be a vicious circle. This explains why Aalbers (2003), in his writing, has documented that social inequality is both the cause of and caused by the rise of gated communities.

Table 2.6: Researches related to social implications for gated communities

<b>Author (Year)</b>	<b>Methodology</b>	<b>Summary of research findings</b>
Low (2001)	Conclusion from interviews	The problem of urban fear has resulted in social exclusivity
Coy and Pohler (2002)	Case study	GC has contributed to the deepening of social segregation in urban area
Landman (2000)	Literature review	GC can create a barrier to interaction and result in social and political exclusion
Forrest and Kearns (2001)	Literature review	GC has internal cohesion but result in wider social fragmentation.
Gooblar (2002)	Case study	Gated communities reinforce social inequality and spatial segregation.
Aalbers (2003)	Case study	Gate serves a double function of social inclusion and social exclusion.
Roitman (2005)	Case study and interviews	Urban social segregation is a two sides process and that those within the gate and those outside feel segregated and discriminated against

Blandy and Lister (2005)	Questionnaires	GC exacerbate the effect of physical and social barriers between residents within and outside the GC
Manzi and Smith-Bowers (2005)	Case study	Gating can help to foster social cohesion by involving a wide spectrum of communities and income groups
Le Goix (2005)	Factorial analysis (dissimilarity indices)	The sprawl of gated communities increases segregation.

### *Low sense of community*

Another drawback due to the formation of a gated community is a low of “sense of community”. (Table 2.7) This perception by residents is recorded in many studies (Blakely and Snyder 1997; Blandy and Lister 2005; Carvalho, George, and Anthony 1997; Landman 2000; Salcedo and Torres 2004). Generally, people are indifferent to the sense of community provided from their living environment (Aalbers 2003).

The sense of community can indeed be divided into two main categories. The first type is external. It describes the linkage between residents within the gated project to the society as a whole while the second type is internal which describe the linkage between resident within the gated development. All the studies have revealed that both types of sense of community are unexpectedly weak. The reason can be attributable to the self-contained characteristic of the gated communities. Those living within the gates can conduct their activities within the

development compound. Therefore, their mobility is relatively low. Consequently, the external sense of community of the residents is low as well.

With the collaborative management of the common area within the gated developments, it is believed that homeowner associations and Management Companies provide a good opportunity for residents to foster good neighborhood relationships. However, this kind of linkage is not anticipated by the purchaser. Evidence has shown that people showed a lack of participation in the management of gated communities (Blakely and Snyder 1997). Such a weak social linkage is considered by residents as a burden and hence cannot persist in the long run. This explains why the internal sense of community is also low for gated developments. However, Wu and Webber (2004) hold a different view. They believe that a gated community can boost the sense of community within the development due to sharing of common backgrounds and the same identity.

Table 2.7: Researches related to sense of community within gated communities

<b>Author (Year)</b>	<b>Methodology</b>	<b>Summary of research findings</b>
Blakely and Snyder (1997)	Questionnaire survey	Approximately one-third of all respondents and one-quarter of gated community respondents reported lesser levels of community feeling

Carvalho, George, and Anthony (1997)	Questionnaire survey	“Looking for community life” rank 19 among the reasons for people to move in a GC
Landman (2000)	Case study	GCs in South Africa has recorded a strong feeling of community. However, the feeling of community is not strong in most countries
Wilson-Doenges (2000)	Mail surveys	High-income gated community residents reported a significantly lower sense of community while there is no difference between the gated and non-gated communities for low-income communities
Wu and Webber (2004)	Case study	GCs offers the environment to develop a sense of “community” due to the same background and identity
Salcedo and Torres (2004)	Interviews	Sustained interaction is scare. There is little community feeling inside a GC
Blandy and Lister (2005)	Questionnaire survey	“Moving into a community” was important for 12 of the respondents, but the other 10 ranked this factor as neutral or unimportant.

### *Change in crime, traffic and pedestrian patterns*

There have been several studies of the relation between a gated community and the occurrence of crime in that particular area (Gooblar 2002; Helsley and Strange 1999; Wilson-Doenges 2000). It is believed that a gated community is likely to attract crimes due to the concentration of affluent groups or to shift the crime to nearby districts (Blandy and



Research 2003). The result of the Wilson-Doenges (2000), Gooblar (2002) and Landman (2000) studies has shown that there is actually no difference between the crime rates of gated and non-gated communities. On the other hand, the result of the Helsley and Strange (1999) and Landman (2000) studies have shown that there is a reduction in the number of active criminals in gated communities and an increase in the number of active criminals in all other neighbouring communities. This shows a displacement of crime from the gated area to non-gated area.

The traffic pattern will also change as a result of the gates and other forms of obstruction created by the gated community (Landman 2000). Traffic congestion, longer commuting times and the response time of emergency services are expected due to the unnecessary blockage (Gooblar 2002).

Apart from that, the immediate effect of a gated community is a change in pedestrian travel patterns (Blandy and Research 2003; Burke 2001). It is because the permeability of an urban area is immediately reduced by the presence of walled neighborhoods that prevents pedestrians and motorists from moving straight through the road (Burke 2001). This reduction in permeability increases the trip lengths for all different modes of travel.

Table 2.8: Researches related to change in crime, traffic and pedestrian patterns in gated communities

<b>Author (Year)</b>	<b>Methodology</b>	<b>Summary of research findings</b>
Helsley and Strange (1999)	microeconomic and game-theoretic model	Gating always diverts crime to other communities and has an overall deterrent effect on crime. However, GCs increase the overall level of crime
Wilson-Doenges (2000)	Mail surveys	no significant difference in actual crime rate between gated and non-gated community
Landman (2000)	Case study	GC results in reduction of crime, displacement of crime and increased response times.
Burke (2001)	Case study	GC results in reduced permeability of an urban area. Thus, increasing pedestrian's trip lengths. Traffic is reduced due to the gates

### *Local governance problems*

As mentioned previously, one of the reasons for people to live inside the gates was to protect their own “club goods” against the exploitation by non-residents. At the same time, they wish to manage their common parts through a homeowner association or Management Company. This kind of condominium provides services that resemble the municipal services that are originally provided by the government. Privatization of services was regarded as a tool to evade the payment of tax. As people did not want to pay twice for the same services they

enjoyed (Atkinson and Blandy 2005), residents living in the gated enclaves in the US have called for a tax rebate which poses a threat to the local fiscal governance (Landman 2000).

Apart from the financial concern, the segregation of a community has also created manifest urban planning and management problems (Landman 2000). Gated developments tend to privatize the open space/public place and other public infrastructures and create yet another barrier to social interaction (Grant 2005; Low 2001; Miao 2003; Roitman 2005). Those facilities and open space “locked” within the walled compound will make it impossible to generate social connections between people with different income levels and cultural backgrounds (Miao 2003). This in turn worsens the problem of social inequality. Coy and Pohler (2002) use the phrase “*imprisonment in an ideal world*” to portray the negative impact of self-governance and people’s indifference to the outside of the gates. If this is the situation, the role of government will become a redundancy. This kind of settlement will therefore create lots of troubles on law enforcement and add burdens on the local governance.

#### *A threat to sustainability*

“Sustainability” is a maxim for the town planner. This objective is difficult, though not impossible, to achieve. With the global spread of gated communities, town planners are confronted with a more difficult task and the idea of sustainability is now subject to formidable challenge.

In view of this phenomenon, scholars have also linked up the issue of a gated community and urban sustainability. Landman (2000) has adopted *“The UN Habitat’s Programme for Sustainable Cities”* to define urban sustainability which states that *“a sustainable city is a city where achievements in social, economic and physical development are made to last.”* (p.2). The formation of gated communities is believed to have significant impacts on all those dimensions and made urban sustainability difficult to achieve. Landsman (2000) also outlined 7 key dimensions to evaluate the effect of gated community on urban sustainability. However, he did not give any concrete examples to support his argument and there was not any analysis conducted or model employed to arrive to his conclusion.

In the real world, people simply enjoy the security from their “Utopia” and do not realize the economic and social effects behind those gates. It is important to note that gated communities are not merely a form of residential settlement but also a kind of social transformation. The gate seals off neighborhoods and creates walled enclaves that further fragment our fragile social and economic fabric (Blakely and Snyder 1997). So, gated communities are regarded as a threat to the sustainability of land use (Landman 2000).

## **Gated Community - the Case of Hong Kong**

The issue of the gated community in the US has undergone fierce debate in the past two decades. However, there is no literature studying the case in Hong Kong. Does the gated community in Hong Kong resemble foreign predecessors? What are the features of gated communities in Hong Kong? This section tries to provide the basic description underpinning the study of gated communities in Hong Kong.

### *Building styles in Hong Kong*

Nowadays, if one venture into one of the new residential developments in Hong Kong, one may discover that the periphery of any development has undergone dramatic change in the architecture of modern buildings.

Hong Kong is a place with a dense population and scarce land. In terms of building style, the mainstream in US urban housing types is the low-rise, single-family home. (Blakely and Snyder 1997) While in Hong Kong, mid- to high-rise buildings are found in the urban area with low rise houses/apartments located on the Peak, mid-level and suburban areas. In such a crowded area, we can hardly identify any residential developments surrounded by a green garden, as in the case of US suburban areas (Blakely and Snyder 1997). In contrast to the US, gated communities are not confined to the suburban area.

Hong Kong developments, namely residential property is characterized by distinctive features walls, fences, and gates. Some of these are elaborate, decorative, threatening, and ornate, while others are simple, inexpensive, and purely functional. Fences and walls come in varying sizes, shapes, dimensions and use a variety of materials. These features are constructed for various purposes. Sometimes they are used “to keep us in or behind the walls and gates”. In other conditions, they serve “to prevent others from entering the private spaces and properties.” In certain examples, they even function “to keep people away from the use of public spaces”. While these physical walls and gates are important visible features of human landscapes, there are also “cognitive or mental” walls and fences that we construct. They are constructed for many of the same reasons as physical features, i.e. “to keep us secure” and “to keep a stranger out.” In most cases, these artificial barriers are constructed by developers, individuals, and in certain cases may be constructed by communities and even governments.

In Hong Kong, buildings are closely packed. Due to limited land resources, buildings are built in close proximity. In such a condition, privacy is of paramount importance for the residents. This explains why people choose to reside in remote areas such as the Peak, Bowen Road, Island Road, Deep Water Road, Repulse Bay Road where the building density is far below the urban area. Buildings situated in these locations are usually luxury houses and apartments with a high property price, e.g. Alba Garden, Belview Place, Bowen's Lookout, Grosvenor Place. Although the high property price due to the “extra privacy” provided,

people still prefer them as living in those areas marks the identity icons for residents. As there is no empirical study relating to “demand for privacy” in the formation of a gated community, this is the prime objective to find out if a correlation exists in Hong Kong.

In foreign countries, the new gated housing areas are usually developed as large-scale projects planned as a whole by private project developers (Coy and Pohler 2002). In the case of China, Chinese gated communities involves a much higher density in the residential quarter (Miao 2003). This gives us some insight on the relationship between scale of development and formation of a gated community. In Hong Kong the scale of residential development ranges from a few houses accommodating 3-4 units (e.g. Villa Rosa) to nearly 50 blocks of buildings accommodating 6500 units, e.g. Heng Fa Chuen. At this stage, there is no literature showing that large scale development is likely to be a gated community in Hong Kong.

### *Defining gated communities for Hong Kong*

There are so many differences in terms of building style between Hong Kong and foreign countries. Therefore, the definitions of a gated community used by Grant J (2004), Grant (2005), Aalbers (2003), Landman (2000) and Blandy and Lister (2005) may not be applicable in Hong Kong. If we apply these definitions of gated community in Hong Kong, one may find that nearly all the developments are gated. Developers and residents in Hong Kong are very conscious about the

property rights they possess. Therefore, nearly all the developments possess security measures to “preclude public access” to private areas. Because of the unique building pattern in Hong Kong, a tailor-made definition for the Hong Kong is therefore essential. With regard to local building style and pattern, privatization of “public facilities and open space” is the key determinant used to define a gated community in Hong Kong. Hence, the definitions of Low (2003) and Blakely and Snyder (1997) are preferred as they have mentioned the idea of public facilities and open space.

In Hong Kong, some of the “public facilities and open space” are closed off. Usually, the way they exclude outsiders is not very conspicuous. They intended to make use of the design and decoration to achieve an intangible form of barrier. The term “pseudo-public places” used by Miao (2003) best fits the situation. This is because they are open space in nature. Yet, their decoration and design certainly want to preclude outsiders from using those facilities and open space.

Even with this notion in hand, it is necessary to formulate parameters to justify the privatization of public facilities and open space in Hong Kong. Based on the situation in Hong Kong, a set of guidelines to facilitate the determination of a gated community is introduced. Details are in Chapter 3 of this dissertation.



### *Types of gated community in Hong Kong*

As mentioned before, the typology used by Blakely and Snyder (1997) cannot fully reflect the situation in Hong Kong. This is because many Hong Kong developments possess combined character of a combination of the three types of community. So, in order to formulate a new typology for Hong Kong, the idea of “permeability” or “degree of openness” is used. Figure 2.2 shows two extreme types of gated community commonly found in Hong Kong.

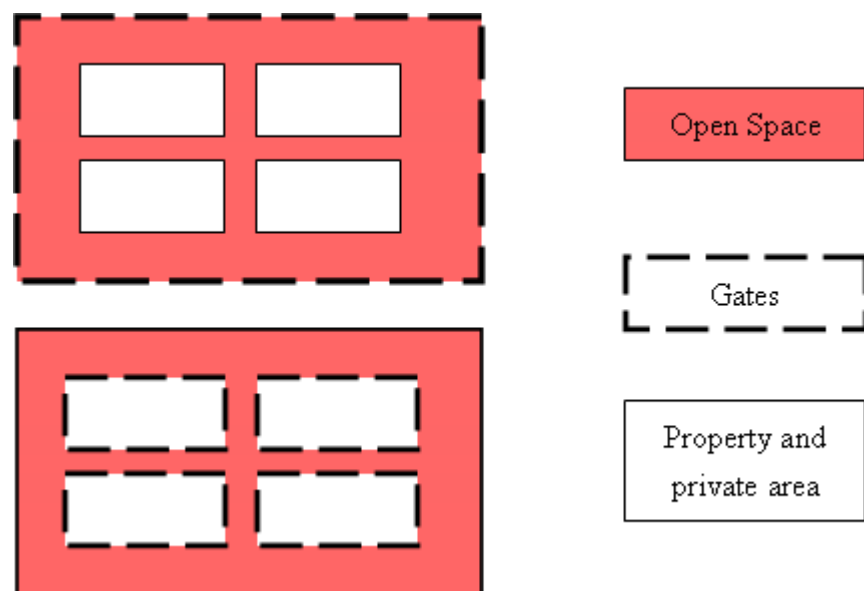


Figure 2.2: Types of gated community

Figure 2.2 shows two extreme cases of gated communities. The upper one is the least permeable type of gated community. The access to the public facilities and open space is strictly forbidden by the gates or other form of intangible barrier (notices or signs) erected at the periphery of the developments. Outside the gates, you can hardly catch a glimpse

of the buildings inside. Examples of these developments are shown in photographs 11 and 12.

For the lower type, the access to the open space is not obstructed by any form of barrier (tangible or intangible). It possesses the highest level of permeability. However, the buildings within the developments are still secure by a high level of barriers (such as electronic keypad system, surveillance camera). Although the open space is located within the development, free passage is allowed. Examples of this kind of developments are shown in photographs 13 and 14.

Other developments in Hong Kong usually lie between these two extremes. The extent by which the developments differentiate from these two ends depends on the barrier used. Sometimes, obvious barriers in the form of (gates, fence, and security guard) or intangible barrier in the form of (decoration, architecture, notices and signs<sup>1</sup>) may be used. Of course, there exist certain developments that are not gated at all. Local universities such as The University of Hong Kong have no barrier on the periphery of the development or the entrance of each building within the campus. However, this kind of “barrier free” construction cannot be found in the residential sector in Hong Kong.

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<sup>1</sup> In Hong Kong, it is common to find the sign “private road” erected on the entrance of the developments. It is the right of developers to erect the “private road” sign on private area. Whether they are effective to exclude outsiders and traffics is questionable. The dispute between Fairview Park residents and Tai Sang Wai villagers on the use of privately-owned Fairview Park Boulevard has shown that private road signs are not effective to exclude outsiders.



Photograph 11: Open space is closed by gates  
Name of development: The Leighton Hill  
(Photograph taken on: 7/3/2009)



Photograph 12: A private road sign is put at the entrance of open space  
Name of development: Li Chit Garden  
(Photograph taken on: 7/3/2009)



Photograph 13: A public pedestrian footpath for public access  
 Name of development: Lei King Wan  
 (Photograph taken on: 7/3/2009)



Photograph 14: Open space free from obstruction  
 Name of development: The Orchards  
 (Photograph taken on: 7/3/2009)

### *Management of common areas in Hong Kong*

Regarding the management of buildings, the common parts of a Hong Kong development are managed by the owner's committee, owner incorporation or third-party Management Company appointed by all the owners. Their functions are more or less the same as the homeowner association in the case of the US.

Like the situation in many foreign countries, club facilities and amenities exist in the Hong Kong developments. Hence the "theory of club goods" as proposed by Manzi and Smith-Bowers (2005), Housing and Smith-Bowers (2004) and Wu and Webber (2004) in the study of gated community also apply in Hong Kong.

As mentioned previously, a gated community is a way to achieve self governance and allow people in the US to call for a tax rebate. However, this is truth only in foreign countries. This kind of tax rebate is not possible in Hong Kong. It is because tax in Hong Kong is levied on individuals no matter whether they utilize local services or not. Therefore tax evasion is not a justification for the formation of gated communities from local perspective.

On the other hand, self-governance is also difficult to achieve because some of the facilities provided by the government cannot be replaced by the private developers in their projects. Despite the fact that the club house associated with certain projects can provide a wide range



of services and facilities to their residents, certain public services such as waste collection and disposal is still provided by the government. This is partly because providing such services involves high operation costs and is not profitable in the eyes of developers. Hence, there are many differences between the operation and management of gated communities in Hong Kong as compared with foreign countries.

### *Crime rates in Hong Kong*

There has been considerable research that links fear of crime to the formation of gated communities. For this reason, this dissertation also looks into the crime rate in Hong Kong to see if there is any linkage between crime rates to the formation of gated communities. To begin with, we have to get a general picture of the crime level in Hong Kong.

According to the statistics released by the Hong Kong Police Force, the overall crimes and crime rates remained steady over the past 10 years (except in 2003 which may be due to the onset of the Severe Acute Respiratory Syndrome (SARS)). (Figure 2.3 and 2.4). Therefore, Hong Kong is featured as having a society that is stable with low crime, secure and safe environments. According to the Security Bureau of the HKSAR government, Hong Kong is one of the safest cities in the world. The overall crime rate, that is, the total number of crimes per 100 000 population, is lower than many other metropolitan cities (Security Bureau 2009). Also, this steady trend suggests that fear of crime may not be a determinant to the formation of a gated community. This is consolidated

by the Hong Kong Crime Victimization Surveys (HKCVS) which measures satisfaction with the services of the police (Centre for Criminology 2009). These polls tend to show a high degree of public confidence in the police (Centre for Criminology 2009). So, we can suggest that people living in the gated community are neither in fear of the high crime rate nor despair of the competence of the police force in Hong Kong. Despite people in Hong Kong having a very low level of fear of crime and high levels of approval for the HK police service, it is still worthwhile to study the effect of actual crime on the formation of a gated community. It is because there are always deviations between people's perception towards crime and the actual crime in Hong Kong.

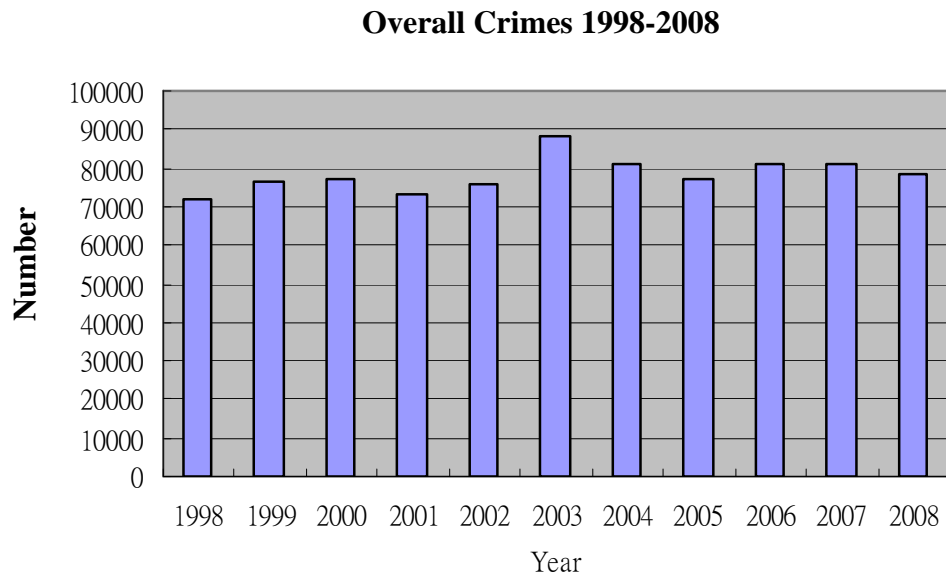


Figure 2.3: Overall crime in Hong Kong (1998-2008)

Source: Hong Kong Police Force (HKSAR) Available at:

[http://www.police.gov.hk/hkp-home/english/statistics/01\\_overall\\_crime.htm](http://www.police.gov.hk/hkp-home/english/statistics/01_overall_crime.htm)

[Accessed 10/3/2009]

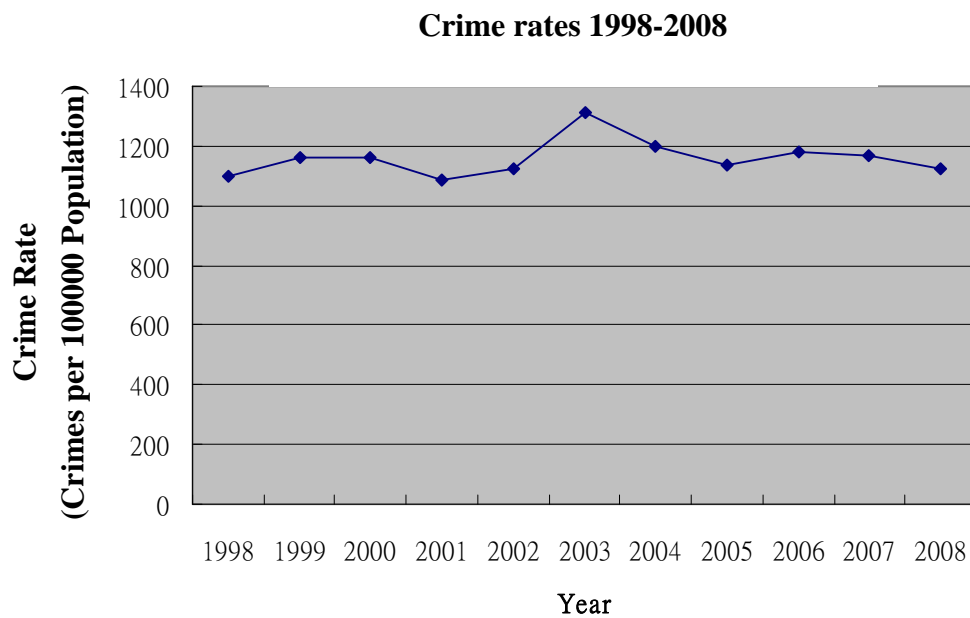


Figure 2.4: Crime rate in Hong Kong (1998-2008)

Source: Hong Kong Police Force (HKSAR) Available at:

[http://www.police.gov.hk/hkp-home/english/statistics/01\\_overall\\_crime.htm](http://www.police.gov.hk/hkp-home/english/statistics/01_overall_crime.htm)

[Accessed 10/3/2009]



## *Public facilities and open space in Hong Kong*

It is the primary objective of this dissertation to find out the reasons for the formation of gated communities in Hong Kong. As defined earlier, privatization of public facilities and open space is used as a guideline to determine whether a particular development is gated. Hence, the section serves to provide background information on the provision of public facilities and open space in Hong Kong

According to the existing planning regime in Hong Kong, the provisions of public facilities and/or open space in residential developments are planning conditions which may or may not be imposed by the Government during the granting of planning permission. A publication from the Lands Department titled “*Background Information on Provision of Public Facilities within Private Developments*” states that the government may introduced planning conditions in the lease which is a contract between the government and the developer(s). The reasons for that is to achieve integrated design, optimization of land use and better site planning, and meet public needs (Lands Department 2005). The developer in return can get exemption of floor space from the gross floor area (GFA) calculation or bonus GFA (Lands Department 2005).

Public facilities within private developments can broadly be categorized into: (a) Government, Institution and Community ("GIC") facilities such as community halls, elderly centres, etc.; (b) public open spaces (POS); (c) pedestrian passage and vehicular access, e.g. walkways,

footbridges and rights of way; and (d) Public Transport Terminus (PTT) (Lands Department 2005).

Sometimes, the provision of such open space and facilities may introduce and translate into the land lease. If this is the case, the development has to strictly comply with the requirements. Fail to do so may render the re-entry by the government for breach of conditions in the land lease by developer.

Although under certain circumstances the required facilities may be managed and maintained by the developers after completion. Developers are legally obliged to permit the public to have lawful use such facilities and not to allow the area to be obstructed, both by intention and negligence.

In March 2008, the government released a list of developments with facilities and/or Open Space required under lease for the use by the public (Lands Department 2005). This publication has become an important source of data underpinning the study of gated communities in Hong Kong. As mentioned before, one of the key features of a gated community is for developments that close off public areas which they are not legally entitled to do. So, this dissertation uses this rationale as a yardstick to investigate all the residential developments, in Hong Kong Island only, in order to identify the gated communities. (Appendix IV) This in turn evaluates the factors that attribute to the formation of gated communities by means of a statistical model.

## **CHAPTER 3**

### **HYPOTHESES AND METHODOLOGY**

With the availability of publications from the Lands Department regarding the provision of facilities and/or open Space required under lease for the use by the public in private developments, it is possible to evaluate the reasons leading to the formation of a gated community in Hong Kong and try to identify if a possible trend exists for this phenomenon. It is important to note that the decision to form a gated community rest in the hands of developers, not the residents. Hence, the reasons for the formation described here are considered from the developers' perspective.

As discussed in chapter 2, much has been written about the reasons for the formation of gated communities. Table 3.1 summarizes the reasons for the formation of gated communities as identified by researchers and their corresponding methodologies adopted to arrive at such conclusions:

Table 3.1: Previous researches on reasons for the formation of GCs and their corresponding methodologies

<b>Reasons</b>	<b>Methodology</b>
1. Peoples' fear of crime and search for security	Questionnaire survey
2. Peoples' demand for privacy	Questionnaire survey
3. Peoples' demand for status differentiation	Questionnaire survey
4. Peoples' demand for privilege and exclusiveness	Literature Review
5. As a kind of marketing strategy by developers	Questionnaire survey
6. To maintain property value	Empirical studies
7. To resist taxation	Case studies

We can see that the majority of reasons regarding the formation of gated communities were concluded from the result of a questionnaire survey. These questionnaires collect information related to people's perceptions which are unobservable in nature. Hence, the precision of this type of method is questionable because the interviewer and interviewee may not share common ground on a particular set of questions. Also, how people behave in real life may not be consistent with their perceptions and thoughts. To test their validity in explaining the reasons for the formation of gated communities in Hong Kong, we have to study peoples' actual behaviour which is measurable and observable.

The prime objective of this dissertation is to find out the reasons for the formation of a gated community based on peoples' actual

behaviour through the use of suitable parameters and an empirical test. The result will tell us whether the above-mentioned reasons (a kind of perception) are supported by peoples' behaviour. This in turn allows us to verify the reliability of those reasons suggested by researchers. As empirical studies have been conducted to test the reason on maintaining property value, this factor is not considered in this analysis. Also, resisting taxation is impossible in Hong Kong and does not require further investigation. Hence, in this dissertation, only the first four reasons are tested. The test is conducted with reference to the following six hypotheses:

## **Hypotheses**

### **Hypothesis I**

In much of the previous literature, one of the reasons for people to move into a fortified development is due to their demand for higher status. Living in a gated community is considered as a prestigious symbol and can enhance peoples' status. To test if satisfying peoples' demand for higher status is a reason for developers to form gated communities, we can look at the "average transaction price" of a development. A development with a higher transaction price per unit area means that only the affluent groups are willing and can afford to live in it. Hence, the underprivileged can be excluded. This can give prominence to the affluent group and hence display their eminent status. Given that a development with a higher transaction price provides a higher status, hypothesis I is formulated to show that peoples' demand for higher status is a reason for developers to form a gated community.

### Hypothesis I

*A development with higher “average transaction price” is associated with a greater likelihood of being a gated community than one with a lower “average transaction price.*

If Hypothesis I is not refuted, we have grounds to say that allowing higher status for residents is a reason for a developer to form a gated development. The actual behaviour of people as derived from the statistical result has demonstrated their demand for higher status. Thus, the reason “demand for status differentiation” as suggested by foreign researchers is also applicable in Hong Kong. This also shows that behaviour of people (as shown in the statistical result) is consistent with their perception (as shown in the survey conducted in foreign studies).

### Hypothesis II

Demand for privacy is also one of the factors that result in the proliferation of gated communities in foreign countries as described in Chapter 2. However, studies from foreign researchers do not clearly illustrate which type of privacy they actually refer to. Indeed, privacy involves two kinds. The first one is external which describes the privacy of the individual relative to society as a whole. The other type is internal and describes the privacy of the individual within the same household unit. It is believed that the privacy that researchers refer to involves both the external and internal. However, due to data constraints, it is not possible to test the external type of privacy.

Assume the average family size is equal, a larger unit size allows every family member a higher degree of privacy. Given that individual privacy increases with unit size, the following hypothesis is formulated to show that peoples' demand for privacy is a reason for developers to form a gated community.

### Hypothesis II

*A development with a larger average unit size is associated with a greater likelihood of being a gated community than one with a smaller average unit size.*

If Hypothesis II is not refuted, we have grounds to say that allowing a higher degree of privacy for residents is a reason for a developer to build a gated development. The actual behaviour of people as derived from the statistical result has shown their strong demand for privacy. Thus, the reason "demand for privacy" as suggested by foreign researchers is also applicable in Hong Kong. This in turn proves that the actual behaviour of people (as shown in the statistical result) is consistent with their perception (as shown in the survey conducted in foreign studies)

### Hypothesis III

In the literature review of this study, it is mentioned that one of the reasons for the formation of a gated community is to offer a “crime-free area” for the residents within the development. The gated community provides extra security to its residents which is an exclusive privilege enjoyed by them. As there is a correlation between perceived crime and actual crime, we can suggest that a high actual crime level within the district will lead to the formation of a gated community which is a remedial measure for people’s fear of crime. Given that a development located in a district with a large number of reported crime cases is likely to be fortified, the following hypothesis is formulated to show that people’s demand for security is a reason for developers to form a gated community.

#### Hypothesis III

*A development located in an area with a high crime level is associated with a greater likelihood of being a gated community than one located in an area with a low crime level.*

If Hypothesis III is not refuted, we have grounds to argue that providing extra security for residents is a reason for a developer to build a gated development. The actual behaviour of people as derived from the statistical result has shown their strong demand for security. In other words, the reason “fear of crime and search for security” suggested by foreign researchers is also valid in Hong Kong. This also proves that the



actual behaviour of people (as shown in the statistical results) is consistent with their perception (as shown in the survey conducted in foreign studies)

#### Hypothesis IV

As mentioned in chapter 2, one of the reasons for people living in gated communities was to secure their exclusive privilege of using their private facilities. They believe that relying solely on the “self-discipline” of outsiders is not effective to protect their private facilities and amenities from unwanted uses or other people. So, they choose to rely on gates to exclude externalities. In other words, a relationship exists between the demand for privilege and the formation of gated communities. Existence of a clubhouse can be used as a proxy to measure people’s demand for privilege and exclusivity. Because a clubhouse is restricted to residents within the development, this can symbolize people’s demand for privilege and exclusivity. If results show that gated developments are equipped with a clubhouse, it is reasonable to suggest that residents’ demand for privilege and exclusivity is the reason for developers to fortify their developments.

#### Hypothesis IV

*A development with a clubhouse is associated with a greater likelihood of being a gated community than one without a clubhouse.*

If Hypothesis IV is not refuted, we have grounds to argue that satisfying people’s demand for privilege and exclusiveness is a reason for

a developer to form a gated development. The actual behaviour of people as derived from the statistical result has shown their strong demand for privilege. Therefore, the reason “demand for privilege and exclusiveness” suggested by foreign researchers is also valid in Hong Kong. This also proves that the actual behaviour of people (as shown in the statistical results) is consistent with their perception (as shown in the survey conducted in foreign studies)

### Hypothesis V

Although the concept of a gated community can be dated back for centuries, this suggests no obvious trend for the formation of a gated community. Previous studies have revealed that gated communities are becoming more vivid and prominent in many metropolitan cities. However, those suggestions are based on observations and subjective perception. To find out whether a trend exists, we can look at the age of the buildings. By means of a statistical model, we can find out if there is an increasing trend for the formation of gated developments in a particular city. Hence, a control variable, “age of the development”, is introduced in the analysis to study the possible trend. If recent developments are gated while older developments are not, it is reasonable to suggest that a trend for the formation of gated communities exists. Therefore, Hypothesis V is proposed.

Hypothesis V

*A recent development is associated with a greater likelihood of being a gated community than one an older one.*

If Hypothesis V is not refuted, we can prove that developers have a higher tendency to privatize public facilities and open space in newer developments. This in turn shows that the developers' intention to form gated communities is proliferating in Hong Kong.

## **Methodology**

Previous studies have adopted different approaches to find out the reasons behind the formation of a gated community. The methodologies adopted were mainly questionnaire surveys (by telephone, by interview, by sending e-mails and questionnaire form) conducted with the residents and non-residents living inside and outside the gates respectively. (Blandy and Research 2003; Blandy and Lister 2005; Carvalho, George, and Anthony 1997; Grant 2005; Jurgens and Gnad 2002; Low 2001; Roitman 2005; Salcedo and Torres 2004). These are considered as crude research methods as the explanatory power of such analysis is greatly undercut by random choice of sample that cannot represent the full scale of the picture. Only when property price is involved in the study is statistical model employed. Lacour-Little and Malpezzi (2001), employ the well-known hedonic regression to examine the effect of private and gated streets on housing prices. Their result shows that the benefits of a gated community are capitalized into house prices. Bible and Hsieh (2001) employed the same hedonic pricing technique. Again, their results showed that homes in gated community have added value. Wilson-Doenges (2000), on the other hand, used covariance to study the effect of gated and non-gated developments on residents' sense of community, perceived community safety, personal perceived safety and their corresponding effect on actual crime. Li (2009) employed the ordered probit regression model to study the major pull factors on residents' attachment to their own housing community. His results

shows that fear of crime determines residents' attachment to stay in the community and he used this as an explanation for the popularity of gated communities in Hong Kong (Li 2009). Since the gated community was not a subject of his study, there was no concrete evidence in his paper to support this argument.

Currently, there is no literature using a probit model to study the formation of a gated community. Yet it is believed to be more convincing than conducting the questionnaire survey to identify the reasons underpinning the phenomenon. A probit model can take into consideration multiple factors and allows us to find out whether those reasons (mostly peoples' perceptions) for formation of gated communities as identified by foreign literatures are consistent with the actual behaviours of people in the case of Hong Kong. Hence, this is a straightforward approach to examine various factors within a single probit analysis. As no literature has adopted a statistical model to study this effect, this dissertation serves as a pioneer in adopting the probit model in analyzing the reasons for the formation of a gated community in Hong Kong.

#### Model specification – the Probit Model

Probit analysis has been used as early as the 1930s to study the impact of insecticides towards insects. Over the years, the model has been applied in various disciplines. The probit estimation technique has

been adopted in social science (Long 1990) and urban economics (Goodman 1988; Lee et al. 1982). This technique has been employed in town planning (Lai and Ho 2001a, 2001b, 2001c, 2001d, 2002). However, a probit model has never been applied to the study of a gated community.

A probit model is an econometric model and is used whenever the dependent variable is a binary data – having two possible outcomes regardless of the value of the independent variables. In other words, the value of the dependent variable is either 1 or 0. In this study, 1 represents that the development concerned is a gated community and 0 represent that it is not a gated project.

A univariate binary qualitative response model is defined by the following equation:

$$(3.1) \quad p(y_i = 1) = F(x_i' \beta_0)$$

where  $i = 1, 2, \dots, n$ , and  $y_i$  is a sequence of independent binary random variables taking the value of 1 or 0,  $x_i$  is a K-vector of known constants,  $\beta_0$  is a K-vector of unknown parameters, and  $F$  is a certain known function. (Finney 1971)

It would be more general to specify the probability as  $F(x_i, \beta_0)$ , but the specification (3.1) is the most common. Amemiya (1986)

suggested that it is most common to express the probability in  $F(x_i' \beta_0)$ , as that in the linear regression model. It is because the elements of  $x_i$  can be transformed from the original independent variables (Amemiya 1986). To a certain extent, a general non-linear function of the original independent variables can be approximated by  $x_i' \beta_0$ , and the choice of  $F$  is not critical (Amemiya 1986).

$F$  can be used as a function form in a statistic model such as a linear probability model, probit model and logit model. In this dissertation, the probit model to study the reasons for the formation of a gated community is employed. (3.2) shows the probit model for the study of a gated community.

$$(3.2) \quad p(x_{\alpha 1}, x_{\alpha 2}, \dots, x_{\alpha j}) = F(\beta_0 + \beta_1 x_{\alpha 1} + \dots + \beta_j x_{\alpha j})$$

$$= \frac{1}{(2\pi)^{1/2}} \int_{-\infty}^{\beta_0 + \beta_1 x_{\alpha 1} + \dots + \beta_j x_{\alpha j}} \exp\left(\frac{-t^2}{2}\right) dt,$$

or equivalently:

$$(3.3) \quad F^{-1}\left[p(x_{\alpha 1}, x_{\alpha 2}, \dots, x_{\alpha j})\right] = \beta_0 + \beta_1 x_{\alpha 1} + \dots + \beta_j x_{\alpha j}.$$

The probability of being a gated development was modelled as a function of the average price per square feet of all transacted units within the development; average gross floor area (measured in square feet) of the units within the development; average crime level of the district where the development is located; existence of a clubhouse and the age of the

development. Let  $x_{\alpha 1}, x_{\alpha 2}, \dots, x_{\alpha k}$  be the value taken by each of these  $k$  variables for  $\alpha$ th development.

Since the dependent variable  $y_i$  is unobservable, the Ordinary Least Squares (OLS) Method could not be used, so the Maximum Likelihood Method is chosen here (Long 1997). The detail of the Maximum Likelihood Method is out of the scope of this dissertation and is not discussed here.

All the above calculations can be facilitated by a suitable computer program, such as EView, which is used in this dissertation for performing the estimation.



## **Data Description**

The data utilized in the probit analysis was extracted manually from the Lands Department publication *“Provision of Facilities and/or Open Space required under lease for the use by the public in private developments completed in or after 1987 (as at October 2008)”*. A total of 84 residential projects completed from 1 January 1987 to 31 October 2008 were identified. However, as there was missing information in some of the samples, only 61 developments were suitable for modeling purposes.

### *The Dependent Variables*

This is the type of development (i.e. either gated or not). In the data set of from the Lands Department, all residential developments are classified into gated and non-gated developments. As mentioned before, privatization of “public facilities and open space” is the key determinant of a gated community in Hong Kong. However, it is impossible to identify any developments that completely close off public facilities or open space in Hong Kong. For this reason, a new benchmark for verification of a development is thus necessary. The method adopted is to find out the level of “intention” of the developer to close off the public facilities and/or open space. The following TRUE/FALSE questions are formulated to facilitate the classification:

Regarding the public facilities and/or open space:

1. There are gates (open or closed).
2. There is no public presence.
3. They are located on a podium.
4. The decorations are the same as those of the developments.
5. There is no notice or sign telling the public of their existence.
6. There is a notice or sign telling the public that they are private areas.
7. They cannot be seen from the perimeter of the development or it is obstructed / blocked

If we apply the above 7 questions to each development in Hong Kong, the number of “TRUE” answers for all development range from 0 to 5. Hence, developers vary in their level of intention to form a gated development. By arranging all these numbers from the lowest value to the highest value and selecting the middle one, a median can be drawn and a benchmark can be set from the spectrum of samples. In this case, the median is 3 answers of TRUE. Hence, 3 would be the benchmark used to determine whether a particular development is gated or not. If the answer to any three or more of the above questions is “TRUE”, then the development is classified as a gated development. If the number of “TRUE” answers is below 3, the development is a non-gated development. (Appendix III) In our model, the type of development is a dummy variable that equals 1 if it is a gated development and 0 if it is non-gated.

## *The Independent Variables*

### Average transaction price (PRICE)

“Average transaction price” is used as a proxy to estimate peoples’ demand for status. Price here refers to the average of all transaction prices (\$/ft<sup>2</sup>) of all the units/flats within the development. All the transaction records from the date of completion of the development to 31 December 2008 were obtained from EPRC. Firstly, an average annual figure is obtained by summing up all prices per square feet of each transaction and then dividing by the total number of transactions within the year. These figures are then deflated to the price level at 1999 using an average price index of the year obtained from Rating and Valuation Department (RVD). Finally, a price representing a particular development is obtained by taking an average to all deflated annual prices.

### Average Unit Size (UNIT)

“Average unit size” of a development is used as a proxy to estimate the “demand of privacy” for the residents within a development. The former is believed to be a good proxy of the latter, as demand for a larger unit is associated with a stronger demand for privacy. This “average unit size” is found by the average of the largest and the smallest units within a development. It is measured in square feet.

### Crime level (CRIME)

One of the determinants for a developer to form a gated community is due to people's demand for security and fear of crime. The crime level is used to estimate people's demand for security in a particular area. The crime here refers to household related crimes. In this study, reported crime is used. Data are obtained from the "Crime and Enforcement Report" published by Hong Kong Police Force (or Royal Hong Kong Police Force before 1997). An annual figure for each Police District is derived by summing up four types of household related crimes including aggravated burglary, arson, burglary with breaking and burglary without breaking. Each development is given a crime figure based on their location.

The crime figure assigned to each development will have three years of time lapse. Normally, it takes three years for the realization of a development. The decision to construct a gated development was made three years prior to the completion of the project (the issue date of the Occupation Permit). Hence, the corresponding crime figure for each development has to be traced back three years from the Occupation Permit issue date. To ensure that the crime figure represents people's perception towards crime, an average figure of a further three years is used. (i.e. if the Occupation Permit of a development is issued in 2000, the crime figure for that particular development is the sum of household related crime in the years 1994, 1995 and 1996 and then divided by 3)

### Age of the development (AGE)

The age of the developments is a control variable used to find out whether there is a trend of proliferation for gated communities in Hong Kong. The age of the buildings is measured in the number of years from the issue date of the occupation permit to March 2009.

### Clubhouse (CLUB)

“Existence of a Clubhouse” is used as a proxy to estimate people’s demand for privilege which is a factor for fortification to prevent outsiders from exhausting their privilege. This is a dummy variable. CLUB is equal to 1 if a clubhouse exists and 0 otherwise.

After eliminating non-usable transactions, a total of 61 developments, which were completed from January 1987 to October 2008, remained in the sample. Table 3.2 presents the descriptive statistics of the data:

Table 3.2: Descriptive statistics of the development information

	<b>Mean</b>	<b>Std. dev.</b>	<b>Min</b>	<b>Max</b>
Total number of developments:61				
PRICE (HKD\$/ ft <sup>2</sup> )	3173.096	4617.187	2061.434	23960.81
UNIT (ft <sup>2</sup> )	1618.731	1257.274	527	4919
CRIME (no./year)	636	156.280	302	865
AGE (Year)	13.829	6.105	2	23
CLUB	-	-	-	-

### **Software employed for processing the data**

Eviews Version 6.0 was used to process the data compiled and collected. The method of probit analysis and maximum likelihood were chosen to analyze the 84 data. The formation of a gated community (dependent variable) was tested against the five independent variables with one of them as dummies. Altogether 84 samples were analyzed of which 23 observations have been excluded by the computer programme Eview automatically due to incomplete information provided from the information source. Details of the parameters used and the result are shown in Table 4.1.

### **Data Sources**

The data sources for this dissertation are:

1. *Provision of Facilities and/or Open Space required under lease for the use by the public in private developments completed in or after 1987 (as at October 2008)* published by the Lands Department (HKSAR).
2. The transaction record obtained from the EPRC website which is an authoritative database showing details information regarding various properties in Hong Kong.
3. Royal Hong Kong Police Force (RHKP), *Crime and Enforcement Report*, for crime data from 1983 to 1996<sup>2</sup>.
4. Hong Kong Police Force (HKP), *Crime and Enforcement Report*, for

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<sup>2</sup> Available in the Special Collections of the University of Hong Kong Main Library

crime data from 1997 to 2008<sup>3</sup>

5. Electoral Affairs Commission (ECA), HKSAR for District Council Districts (DCDs) boundaries.

As the Hong Kong Police Force has divided the Hong Kong Island into four major Police Districts (PDs) for ease of administration and policing, such boundaries may not share the same demarcation as the District Council Districts (DCDs).

As police boundary maps are not disclosed for public inspection, we can still obtain a copy of them from previous crime study literature (Li 2008). By comparing the PDs with the DCDs, the crime figure of a particular region as stipulated in the crime and enforcement report can then be applied to the district where the development is situated.

After analyze the location of all the 61 developments, their corresponding PDs are summarized in the Table 3.3. For details of the PDs for each development, please refer to appendix III.

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<sup>3</sup> Available in the Special Collections of the University of Hong Kong Main Library

Table 3.3: Corresponding Police Districts (PD) and District Council Districts (DCD)

<b>Location</b>	<b>Police district (PD)</b>	<b>District Council District (DCD) (District Council that developments fall within)</b>
Hong Kong Island	Central or Western	Central and Western
	Central or Western	Central and Western
	Eastern	Eastern
	WanChai	WanChai, Southern



## CHAPTER 4

### RESULTS AND INTERPRETATION

The Probit Model offers a holistic approach for investigating the effect of the independent variables on the dependant variable. When all the five independent variables (PRICE, UNIT, CLUB, CRIME, and AGE) are put into the equation for analysis, the results are shown in Table 4.1.

#### Probit model result

Table 4.1: Probit results of all variables

Dependent Variable: GATED COMMUNITY

Method: ML - Binary Probit (Quadratic hill climbing)

Date: 03/23/09 Time: 18:52

Sample: 1 77

Included observations: 61

Convergence achieved after 6 iterations

Covariance matrix computed using second derivatives

Variable	Coefficient	Std. Error	z-Statistic	Prob.
***PRICE	0.000691	0.000251	2.751617	0.0059
**UNIT	0.001092	0.000508	2.148205	0.0317
CLUB	-0.508810	0.747918	-0.680302	0.4963
CRIME	-0.002044	0.002476	-0.825413	0.4091
*AGE	0.129577	0.072705	1.782215	0.0747
C	-6.505796	2.592449	-2.509517	0.0121
McFadden R-squared	0.744694	Mean dependent var.	0.344262	
S.D. dependent var.	0.479070	S.E. of regression	0.235720	
Akaike info criterion	0.525465	Sum squared resid.	3.056024	
Schwarz criterion	0.733092	Log likelihood	-10.02669	
Hannan-Quinn criter.	0.606836	Restr. log likelihood	-39.27316	
LR statistic	58.49294	Avg. log likelihood	-0.164372	

Prob(LR statistic)	0.000000		
Obs. with Dep=0	40	Total obs	61
Obs. with Dep.=1	21		

\*\*\* indicates statistically significant at 1 per cent confidence level while

\*\* indicates statistically significant at 5 per cent confidence level while

\* indicates statistically significant at 10 per cent confidence level.

### Interpretation of results

The McFadden R-squared value (i.e. the percentage that the independent variables can explain the dependent variable, in this case the formation of a gated community) is 0.744175. In order to ensure the dependent variable being “explained” by the independent variable, the figure should be as high as possible. Usually this value will be affected by “bad” observation significantly. The more the number of bad observations, the lower will be the observed values. In the analysis, the McFadden R-squared value is high enough to ensure that the dependent variable can well be explained by the independent variables.

From the result of the probit analysis, it can be seen that the “average transaction price” (i.e. average price per square feet of all the units/flats within the development), which had a positive coefficient, was significant at the 1% level. Empirical evidence shows that the higher the property value, the higher its chances of being a gated community. Hence, Hypothesis I was not refuted. This was consistent with our expectation. It is because the literature has revealed that allowing higher status is one of the reasons for the formation of a gated community. As a higher price per unit area of a development implies a higher status, providing a

higher status to residents is thus the momentum for developers to form gated developments. This also shows that the behaviour of people (deduced from the probit analysis) is consistent with their perception (deduced from the questionnaire survey).

On the other hand, UNIT was significant at the 5% level, and had a positive coefficient, indicating that the larger average unit's gross floor area of a development, the greater its chances of being a gated community. Hence, Hypothesis II is not refuted either. This is not surprising, as the literature has concluded that one of the reasons for the formation of gated communities is due to peoples' demand for privacy. A person residing in a larger unit is believed to be a direct outcome of his strong demand for privacy. Therefore, developers tend to form a gated community in favor of those who are looking for a high level of privacy. This actual behaviour of people shows that the "demand for privacy" is a reason for the emergence of a gated community which is consistent with the literature and studies done by foreign scholars.

The independent variable CLUB, which measures the existence of a clubhouse on the formation of gated community, was statistically insignificant. ( $p\text{-value} = 0.4963$ ) Therefore, Hypothesis IV is refuted. This explains that providing club facilities to satisfy people's demand for privilege is not a motive for a developer to construct a gated community in Hong Kong. The result of CLUB, that is the behaviour of people in real life, is not consistent with their perception. Apparently, this refutes the previous studies which continuously stress the importance of "Club

goods” to explain the idea of privilege and exclusiveness. However, it should not be considered as a “proof” to show that the demand for privilege is not the reason for the formation of gated community. This can be explained by the following reasons.

Firstly, Hong Kong is a small place and buildings are closely packed. The facilities and services provided within the clubhouse are readily available in nearby locations. Therefore, peoples’ demand for privilege and exclusive enjoyment of facilities in Hong Kong is not as strong as those in foreign countries. It is because close substitutes are generally available outside the gates and hence the developer does not consider a clubhouse as an important marketing strategy to persuade people to purchase the development. Consequently, people’s demand for privilege is not regarded as a major factor for a developer to form gated developments.

Secondly, the use of a clubhouse to measure the demand for privilege may not be determinative. It is because a clubhouse may capture other factors such as demand for convenience and demand for specific services (e.g. baby caring). Hence, the result may not conform to our expectations.

The independent variable CRIME, which measures people’s perception of crime, was statistically insignificant. Therefore, Hypothesis IV is refuted. This shows that satisfying people’s demand for security and relieving people’s fear of crime is not a motive for a

developer to fortify their developments in Hong Kong. The result is inconsistent with previous studies that people's fear of crime and demand for security are the two-tier factors for the formation of a gated development. It appears that there is a contradiction between peoples' behaviour and their perception. This can be explained by the following reasons.

Firstly, as mentioned in Chapter 2, Hong Kong people have a high degree of confidence in the local law enforcement agency - Hong Kong Police Force (HKPF). Also, the local crime rate is low relative to other metropolitan cities. So, fear of crime is immaterial for developers on making their decisions to fortify the development. This leads to the conclusion that people's fear of crime and demand for security is not a factor for a developer to construct gated developments.

Another reason to explain the insignificance of this variable is due to the coarse data used in the analysis. The annual reported crime data on Hong Kong Island released by the HKPF is summarized into four large Police Districts (PDs). Further subdivision of these data is not made available to the public. This makes the data set not precise enough as the crime level may vary in different locations within the same Police District. This data constraint may lead to the insignificance of the observed result.

Finally, the variable AGE is also found to be positive and significant, indicating that an older development has a higher likelihood

of being a gated community. Hence, Hypothesis V is refuted. Again, this can be explained by the crime situation in Hong Kong. In the old days, the number of reported household-related crime was relatively high (Appendix I and II). Hence, developers tended to close off the public facilities and open space in order to exclude outsiders which resulted in the formation of gated communities. In recent decades, the number of household related crimes has dropped significantly. Therefore, developers have lessened their vigilance and their tendency to form gated developments for newer projects has reduced accordingly. In other words, there is no observable trend showing that the developers' intention to privatized public facilities and open space is proliferating in Hong Kong.

On the other hand, this trend can be explained by the change in "information cost". In the past, developers tended to "close off" those public facilities and open space both physically and mentally. Due to the high information cost and lack of proper channels, people consider those public facilities and open spaces as "private" and will not query their actual ownership. So, developers considered privatization of public facilities and open spaces as an effective means to exclude nonresident. However, due to the widespread of information and development of mass media, land use in Hong Kong is subject to higher level of public scrutiny in recent years. Hence, fortifying the development is no longer an effective way to exclude nonresident. This explains why developers' intention to privatized public facilities and open space is allayed for newer projects.

To summarize, the results of this Probit analysis have two implications. First, from the behaviour of people, we can see that developers form gated communities in order to satisfy people “demand for higher status” and “demand for privacy”. Unlike the case in foreign countries, peoples’ “demand for privilege” and “demand for security” were not the momentum for developers to form gated communities. On the other hand, we can observe that developers in Hong Kong nowadays are introducing more physical gated elements to their construction. However, the result of the probit analysis has shown that their “intention” to privatized public facilities and open space is indeed alleviating.

Finally, the behaviour of people (as shown from the probit test) is not fully consistent with their perception (as shown from the previous questionnaire survey). Therefore, the reason for the formation of gated communities in foreign countries cannot be fully applied in Hong Kong. Due to the fact that human perception is not always consistent with their behaviour, the probit result has demonstrated that the use of questionnaire surveys to explain the formation of gated communities is erroneous.

## CHAPTER 5

### CONCLUSION

#### Conclusion

This dissertation is a pioneer study on the determinants for the formation of a gated community in Hong Kong. It first reviewed the background of the gated community in foreign countries. Then, it tried to apply the concept to study the case in Hong Kong.

The data for the analysis were obtained from “*Provision of Facilities and/or Open Space required under lease for the use by the public in private developments completed in or after 1987 (as at October 2008)*” published by the Lands Department (HKSAR). These documents served as a blueprint for studying the gated phenomenon in Hong Kong. In this study, only the residential developments on Hong Kong Island were investigated.

The method employed by this dissertation is firstly, a site visit to all the developments. (Appendix IV) Secondly, questions were formulated based on empirical results from the site visit. Then, a simple median technique is employed to classify the gated and non-gated development based on developers’ intention to “close off” with reference to those seven questions. Finally, a probit model is applied to evaluate whether those factors of formation of a gated community adopted in



foreign countries were applicable in Hong Kong. The factors under examination were considered from the developers' perspective. This is because the decision to form gated developments was determined by developers, not by residents. From the literature, it can be concluded that the formation of a gated community was in direct response by developers' to peoples' "demand for higher status", "demand for privacy", "demand for security" and "demand for privilege". In this analysis, one more factor was introduced i.e. "age of development". This control variable is used to study the possible trend for formation of a gated community in Hong Kong.

The result of the probit analysis has shown that the reasons underpinning the formation of a gated community in foreign countries are not completely applicable in Hong Kong. Only "demand for higher status" and "demand for privacy" were the motives for developers to build such gated enclaves with reference to peoples' actual behaviour. No evidence has shown that "demand for security" and "demand for privilege" are determinants for developers to form gated developments. The result has revealed that gated communities were not proliferating in Hong Kong as far as privatization of public facilities and open space is concerned. However, this does not serve as a "proof" that the drawbacks associated with gated communities is not prominent in Hong Kong. This is because this dissertation has employed "the intention for developers to privatization of public facilities and open space" as a yardstick to distinguish the gated and non-gated developments. As mentioned previously, the developments in Hong Kong are generally

gated if we consider them from the “security aspect”. Also, there was no development under analysis that has physically privatized the public facilities and open space. That is why the “intention” of the developer is considered instead. So, to be more precise, the result of the probit test has shown that “the intention for developers to privatize public facilities and open space is not proliferating in Hong Kong”.

As the author has observed, developments in Hong Kong are becoming more fortified if considered from the security aspect. (Photographs 1 to 10). If the level of security is a yardstick to identify gated development, it is not surprising to see an increasing trend of for the formation of gated communities. Of course, further study is necessary to support this argument.

As has been discussed in Chapter 2, gated communities are not only restricted to public domain problems. In fact, the gated community has a far-reaching implication on the social issue of the territory as a whole. It can result in social segregation and urban fragmentation which has a strong impact on urban sustainability. This is true no matter whether the developments are physically or mentally gated. In view of the drawbacks associated with gated communities, is it possible for the local authority to do anything to prohibit or decrease the formation of gated communities?

The author believes that the government can do nothing regarding the “physically” gated development owing to the property rights

possessed by developers. Developers are entitled to erect gates as part of their development's architecture. Although the relevant departments can exercise their discretionary power during the approval of building plans and development applications, it is not uncommon to find that whenever government considers development proposals, much emphasis have been put on scale, location and environmental aspects whereas the social facets are usually ignored. In other words, the existing planning system treated gated project the same as other non-gated or less gated developments. The "gates" are not materially concern in approving planning applications and endorsing building plans.

On the other hand, the government can in fact deter those "mentally" gated developments by various means. The origin of the formation of a "mentally" gated development is due to non-compliance of planning conditions. The provision of public facilities and/or open space is a kind of planning condition which is incorporated into the conditions of the Government Lease during the planning application. So, developers are legally obliged to fulfill this requirement in accordance with the conditions in the Lease. However, there is no government post-approval inspection of compliance with those planning conditions (Lai, Ho, and Leung 2005). Developers who fail to comply with those conditions by privatizing public area (mentally) have shaped the birth of gated communities. This planning loophole is likely to trigger drastic social problems as a result of gated developments.

In view of the existing planning problem, clear policies to regulate the compliance with planning conditions are essential. If those planning conditions are fully complied with, the problem of “mentally” gated developments can be eliminated accordingly. To achieve this objective, publications showing the exact location of public facilities and open space should be disclosed and updated regularly for public inspection. In such a way, consumer can obtain full information on the existence of those public facilities and open space which benefit them *per se*. At present, such information is still not clear enough. Although there are maps showing the exact location of open space, similar maps cannot be found for those public facilities. So, it is difficult for the public to identify those facilities. This explains why developers’ non-compliance with planning conditions including the privatization of public facilities and open spaces is prominent in Hong Kong as private enforcer is not in place to perform the regulatory function. (Lai et al. 2007).

Government is, therefore, urged to modify the existing monitoring and enforcement mechanism for planning conditions so as to offer a strong deterrent against those “mentally” gated developments. Penalties should be in place to rectify the non-compliance of planning conditions as well. Also, there is a need to improve the transparency and expedite the release of information to allow people to keep abreast of all the public facilities and spaces provided by private developers. It is believed that public surveillance is the best means to prevent private developers from taking possession of public facilities/spaces illegally. With the availability of relevant documents, the public should be

encouraged to report any irregularities discovered over the compliance with planning conditions. This, on one hand, can allow public participation in the planning process. On the other hand, this can put a curb on the formation of “mentally” gated communities by local developers and close the loopholes in the existing planning law. It is believed that these measures can effectively suppress the spread of gated communities and serve to attain sustainability in the long run.

## **Limitations and Further Studies**

This Dissertation has several limitations which are summarized as follows:

### *Only HK Island was investigated*

Due to time constraints, this study only considers the data from Hong Kong Island. Besides that, only residential developments are considered in this dissertation. Within the data set from the lands department, there are both commercial, office, residential and retails premises. Also, they data are not fully disclosed yet. All the data provided from the department only reach 2008. Hence, the data available at present is not enough to confirm the gated culture in Hong Kong.

### *Number of Reported Crimes is not Precise Enough*

The reported crime obtained in the analysis is obtained from the crime and enforcement report from the Hong Kong Police Force (HKPF). However, the number of reported crimes for Hong Kong Island only broken down into the four Police Districts, Western, Eastern, Southern and WanChai. Further breakdown of these figures into more precise districts is not available. Therefore, developments within the same region as classified by the HKPF will share a common figure. This will reduce

the precision of the analysis.

### *Insufficient data information*

The sources of data are mainly obtained from EPRC, and there are some transaction records that are not provided from this system. Hence, not all the samples contained complete information. This explains why the data set was reduced from 84 to 61 when run in the Eview program. It is believed that the result of the analysis would be more accurate if that missing information could be obtained to makes the sample size larger.

### *Only the idea of “mentally gated” developments is investigated*

In this dissertation, the method of classifying gated and non-gated development is based on the developers’ intention to privatize public facilities and open space. So, we only consider the “mental” side of gated communities. To get a more precise picture of the gated phenomenon, we should also look at the “physical” side. That is, using the level of security as a yardstick in determining the gated and non-gated developments. Further studies that combine both the physical and the mental side of gated community are therefore essential to obtain a holistic idea of the gated phenomenon in Hong Kong.

## **APPENDICES**

### **Appendix I**

Statistics of total number of reported household related crimes ..... 97

### **Appendix II**

Statistics of summary of reported household related crimes..... 98

### **Appendix III**

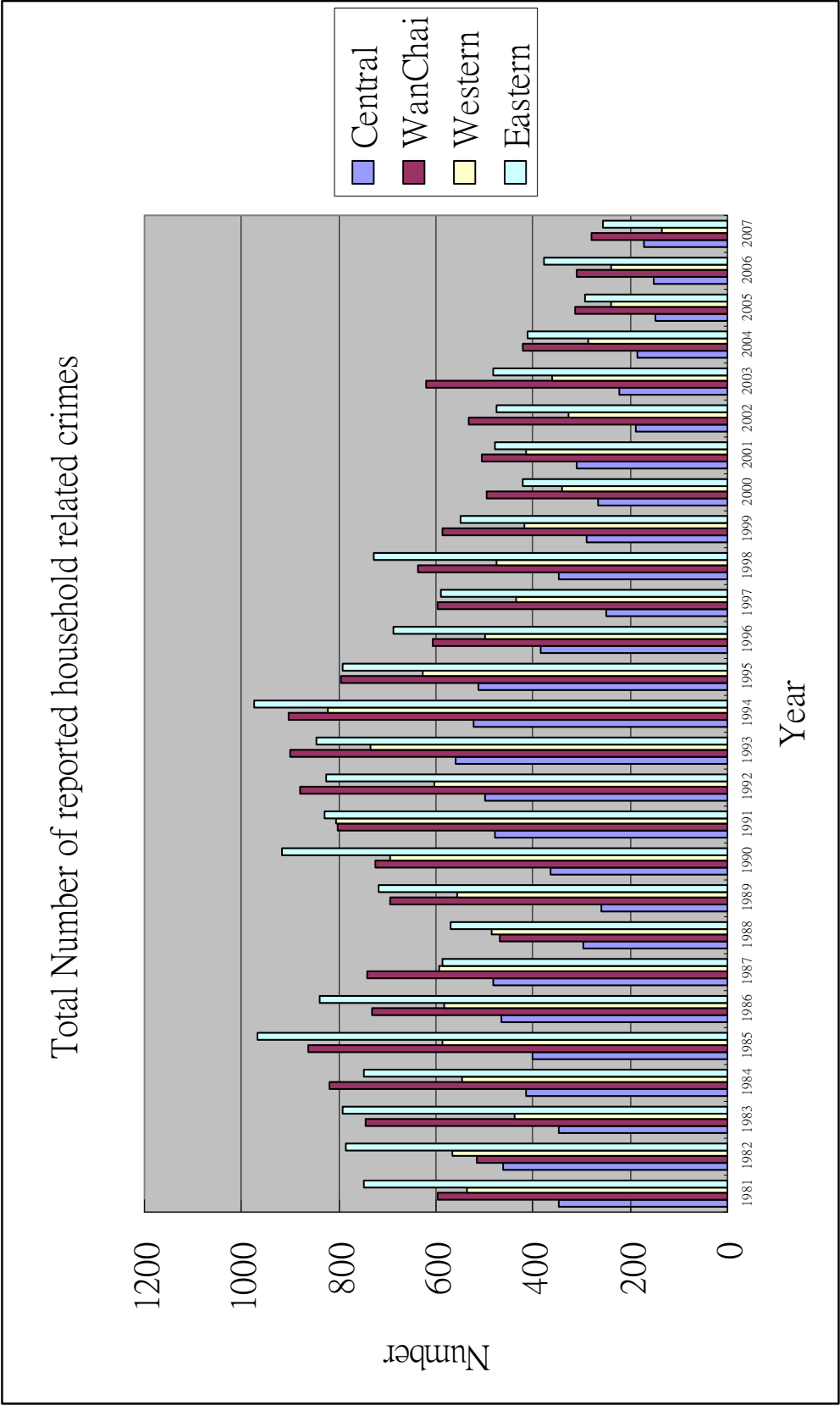
Summary of the 84 developments.....99

### **Appendix IV**

Photographs showing the locations of the public facilities  
and/or open space in the 61 developments.....105



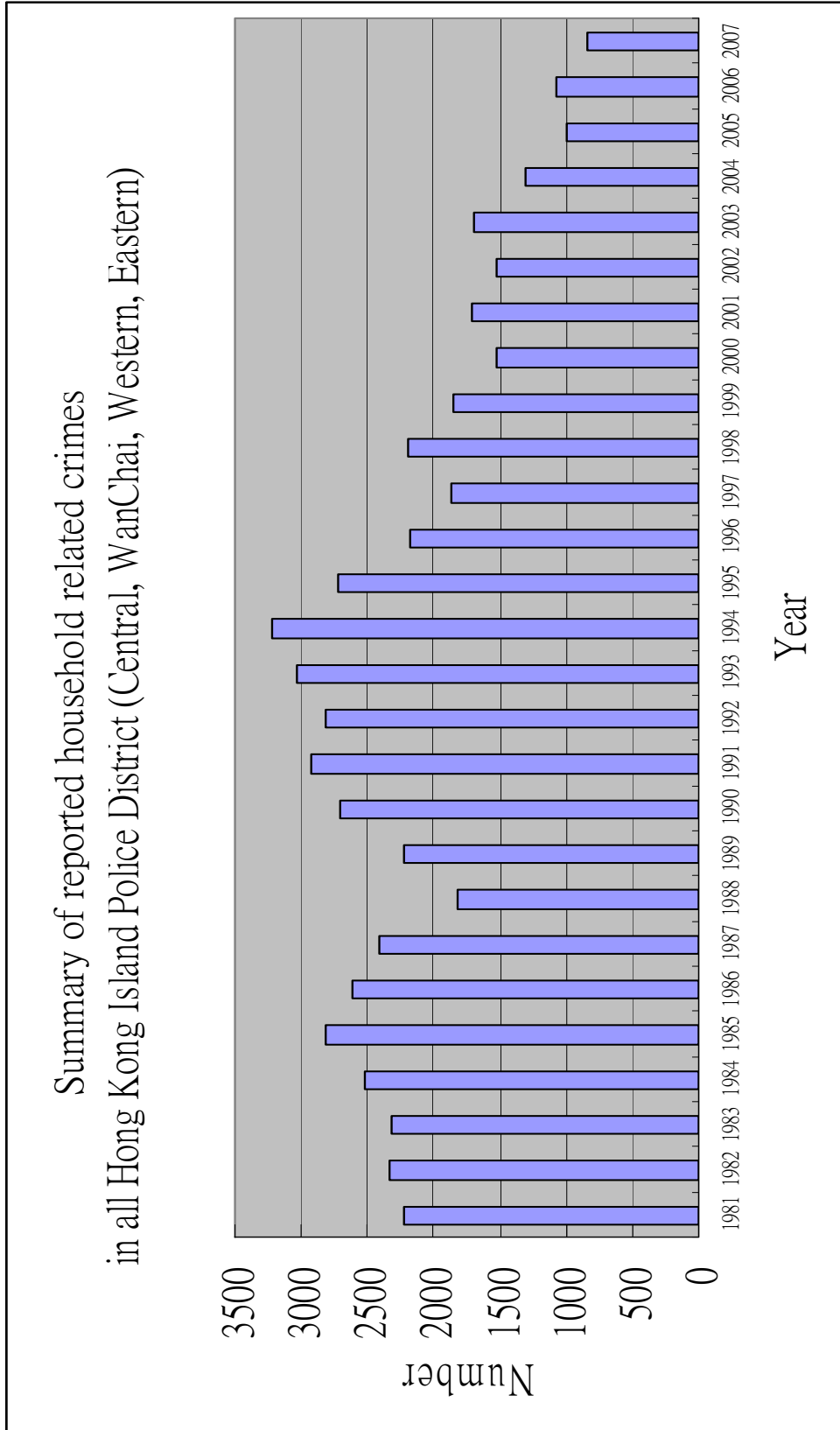
Appendix I



Source: Royal Hong Kong Police Force (RHKPF), *Crime and Enforcement Report*, for crime data from 1983 to 1996 and

Hong Kong Police Force (HKPF), *Crime and Enforcement Report*, for crime data from 1997 to 2008

## Appendix II



Source: Royal Hong Kong Police Force (RHKP), *Crime and Enforcement Report*, for crime data from 1983 to 1996 and

Hong Kong Police Force (HKP), *Crime and Enforcement Report*, for crime data from 1997 to 2008

### Appendix III

### Summary of the 84 developments

#### List of Development in Central and Western District

<b>Police district (PD)</b>	<b>Name of Development</b>	<b>Address</b>	<b>No. of “TRUE” answers</b>
Western	Queen's Terrace	Queen's Terrace, 28 Ko Shing Street/ 1 Queen Street/ 99 Queen's Road West/ 38 Des Voeux Road West	2
Western	The Merton	The Merton, New Praya, Kennedy Town	2
Western	The Belcher's	The Belcher's, 89 Pok Fu Lam Road / 8 Belcher's Street	2
Western	Hollywood Terrace	Hollywood Terrace, 123 Hollywood Road	1
Central	Bowen's Lookout	Bowen's Lookout, 13 Bowen Road	4
Central	Kelletteria	Kelletteria 71 Mount Kellett Road	3
Central	56 Plantation Road	56 Plantation Road	3
Western	La Maison Du Nord	La Maison Du Nord, 12 North Street	0
Central	Grand Bowen	Grand Bowen, 11B Bowen Road	4
Central	11 Pollock's Path	11 Pollock's Path	4
Western	Hongway Garden	Hongway Garden, 8 New Market Street	0
Central	Bowen Place	Bowen Place, 11A Bowen Road	3
Central	Birchwood Place	Birchwood Place, 96 MacDonnell Road	4
Central	The Albany	The Albany, 1 Albany Road	3
Central	Lascar Court	Lascar Court, 3 Lok Ku Road	1
Central	Queen's Garden	Queen's Garden, 9 Old Peak Road	3

Source: “Provision of Facilities and/or Open Space required under lease for the use by the public in private developments completed in or after 1987 (as at October 2008)” published by the Lands Department (HKSAR).

### List of Development in Wan Chai District

<b>Police district (PD)</b>	<b>Name of Development</b>	<b>Address</b>	<b>No. of “TRUE” answers</b>
WanChai	The Leighton Hill	The Leighton Hill,2B Broadwood Road, Happy Valley	3
WanChai	The Zenith	The Zenith,Queen's Road East and Wan Chai Road,Wanchai	1
WanChai	The Grandeur	The Grandeur,44 Jardine's Crescent and 47 Jardine's Bazaar, Causeway Bay	1
WanChai	J Residence	J Residence,60-66 Johnston Road, Wanchai	2
WanChai	8 Shiu Fai Terrace	8 Shiu Fai Terrace, Wanchai	3
WanChai	Li Chit Garden	Li Chit Garden,1 Li Chit Street, Wan Chai	3
WanChai	Le Village	Le Village,49 Village Road,Happy Valley	1
WanChai	Starcrest	Starcrest,9 Star Street, Wan Chai	2
WanChai	Royal Court	Royal Court,9M Kennedy Road, Wan Chai	1
WanChai	Monmouth Place	Monmouth Place 9L Kennedy Road, Wan Chai	2
WanChai	Sherwood Court	Sherwood Court,12 Kwai Sing Lane, Happy Valley	1
WanChai	Nicholson Tower	Nicholson Tower,8 Wong Nai Chung Gap Road	4

Source: “*Provision of Facilities and/or Open Space required under lease for the use by the public in private developments completed in or after 1987 (as at October 2008)*” published by the Lands Department (HKSAR).

### List of Developments in Southern District

<b>Police district (PD)</b>	<b>Name of Development</b>	<b>Address</b>	<b>No. of “TRUE” answers</b>
Western	Marina Habitat	Marina Habitat, 1-3 Ysuet Hoi Street, Ap Lei Chau North	1
Western	Ocean Court	Ocean Court, Aberdeen Praya Road	1
Western	33 Island Road	33 Island Road	3
Western	Island Grove	Island Grove, 40 Island Road	3
Western	Grosvenor Place	Grosvenor Place, 117 Repulse Bay Road	3
Western	35A, B, C, D, E Deep Water Bay Road	35A, B, C, D, E Deep Water Bay Road	3
Western	87 Repulse Bay Road	87 Repulse Bay Road	3
Eastern	15 Shek O Headland Road	15 Shek O Headland Road	3
Western	23 Repulse Bay Road	23 Repulse Bay road	3
Western	3 Repulse Bay Road	3 Repulse Bay Road	3
Western	75 Repulse Bay Road	75 Repulse Bay Road	3
Western	Broadview Court	Broadview Court, 11 Shum Wan Road	1
Western	South Wave Court	South Wave Court, 3 Shum Wan Road	1
Western	51-55 Deep Water Bay Road	51-55 Deep Water Bay Road	4
Western	Villa Rosa	Villa Rosa, 88 Red Hill Road	3

Source: “*Provision of Facilities and/or Open Space required under lease for the use by the public in private developments completed in or after 1987 (as at October 2008)*” published by the Lands Department (HKSAR).

List of Development in Southern District (Continued)

<b>Police district (PD)</b>	<b>Name of Development</b>	<b>Address</b>	<b>No. of “TRUE” answers</b>
Western	81 Repulse Bay Road	81 Repulse Bay Road	3
Western	28 Stanley Village Road	28 Stanley Village Road	3
Western	Majestic Court	Majestic Court, 9 Tai Tam Road	3
Western	The Beachside	The Beachside, 82 Repulse Bay Road	4
Western	The Beachside	The Beachside, 86 Repulse Bay Road	4
Western	Carmel Hill	Carmel Hill, 12 Carmel Road	4
Western	45 & 47 Island Road	45 & 47 Island Road	3
Western	79 Repulse Bay Road	79 Repulse Bay Road	3
Western	South Horizons	South Horizons, South Horizon Drive, Lee Nam Road & Yi Nam Road Ap Lei Chau	1
Western	Belgravia	Belgravia, 57 South Bay Road	3
Western	Alba Garden	Alba Garden, 43 Island Road	3
Western	32 Repulse Bay Road	32 Repulse Bay Road	2
Western	8A Stanley Beach Road	8A Stanley Beach Road	2
Western	The Brentwood	The Brentwood, 11 Repulse Bay Road	4
Western	Bellevue Place	Bellevue Place, 93 Repulse Bay Road	3
Western	66 Deep Water Bay Road	66 Deep Water Bay Road	4
Western	36 Repulse Bay Road	36 Repulse Bay Road	3

Source: “Provision of Facilities and/or Open Space required under lease for the use by the public in private developments completed in or after 1987 (as at October 2008)” published by the Lands Department (HKSAR).

### List of Development in Eastern District

<b>Police district (PD)</b>	<b>Name of Development</b>	<b>Address</b>	<b>No. of “TRUE” answers</b>
Eastern	Island Resort	Island Resort, 28 Siu Sai Wan Road, Siu Sai Wan	2
Eastern	The Orchards	The Orchards, 3 Greig Road, Quarry Bay	2
Eastern	Grand Promenade	Grand Promenade, 38 Tai Hong Street, Sai Wan Ho	3
Eastern	Mount Parker Lodge	Mount Parker Lodge, 10 Hong Pak Path, Quarry Bay	1
Eastern	Island Place	Island Place, 510 King's Road, North Point	1
Eastern	La Place de Victoria	La Place de Victoria, 632 King's Road, North Point	2
Eastern	The Floridian	The Floridian, 18 Sai Wan Terrace, Quarry Bay	2
Eastern	Dragon Pride	Dragon Pride, 18 Tin Hau Temple Road, North Point	1
Eastern	Le Sommet	Le Sommet, 28 Fortress Hill Road, North Point	5
Eastern	Aldrich Garden	Aldrich Garden, 2 Oi Lai Street, Shau Kei Wan	1
Eastern	Fullview Garden	Fullview Garden, 18 Siu Sai Wan Road,	2
Eastern	Cheerful Garden	Cheerful Garden, 23 Siu Sai Wan Road, Chai Wan	2
Eastern	Lok Hin Terrace	Lok Hin Terrace, 350 Chai Wan Road Chai Wan	2
Eastern	Park Towers	Park Towers, 1 King's Road, North Point	3
Eastern	Tanner Garden	Tanner Garden, 18 Tanner Road, North Point	5
Eastern	Fortress Metro Tower	Fortress Metro Tower, 238 King's Road, North Point	0
Eastern	Lei King Wan	Lei King Wan, 31-59 Tai Hong Street	2

Source: “*Provision of Facilities and/or Open Space required under lease for the use by the public in private developments completed in or after 1987 (as at October 2008)*” published by the Lands Department (HKSAR).

List of Development in Eastern District (Continued)

<b>Police district (PD)</b>	<b>Name of Development</b>	<b>Address</b>	<b>No. of “TRUE” answers</b>
Eastern	Perfect Mount Gardens	Perfect Mount Gardens, 1 Po Man Street	0
Eastern	Felicity Garden	Felicity Garden, 111 Shau Kei Wan Road	2
Eastern	Kornhill Garden	Kornhill Garden, Kornhill Road	1
Eastern	Kornhill	Kornhill , Hong Shing Street	1
Eastern	Parkvale	Parkvale, 1060 King's Road	2
Eastern	New Jade Gardens	New Jade Gardens, 233 Chai Wan Road, Chai Wan	1
Eastern	Heng Fa Chuen	Heng Fa Chuen, 100 Shing Tai Road, Chai Wan	2

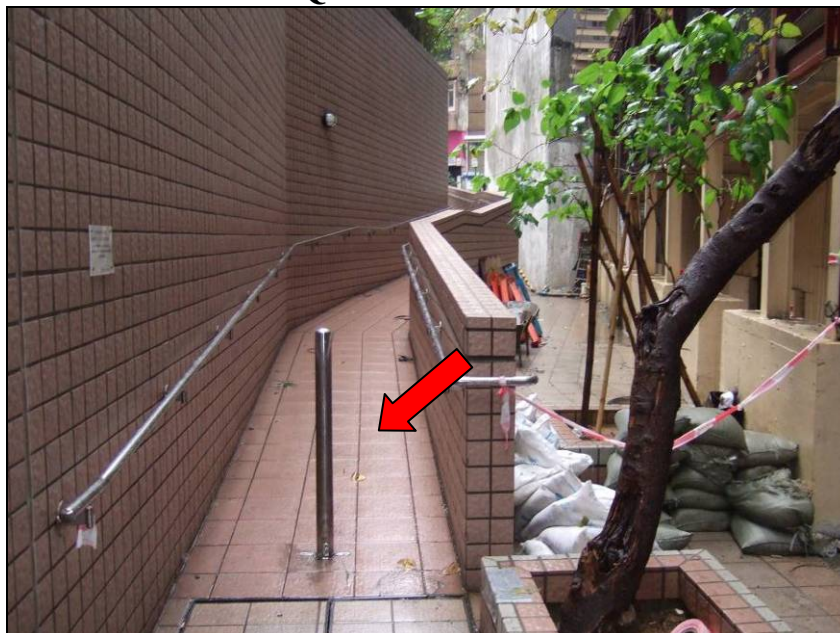
Source: “*Provision of Facilities and/or Open Space required under lease for the use by the public in private developments completed in or after 1987 (as at October 2008)*” published by the Lands Department (HKSAR).



## Appendix IV

Photographs showing the locations of the public facilities and/or open space in the 61 developments

### Queen's Terrace



Pedestrian Walkway

Name of development: Queen's Terrace  
(Photograph taken on: 5/3/2009)



Public right of way

Name of development: Queen's Terrace  
(Photograph taken on: 5/3/2009)

## The Merton



Pedestrian Way

Name of development: The Merton  
(Photograph taken on: 5/3/2009)



Footbridge Support and Connection (not yet construct)  
Name of development: The Merton  
(Photograph taken on: 5/3/2009)



## The Belcher's



Open Space

Name of development: The Belcher's  
(Photograph taken on: 5/3/2009)



Pedestrian Escalator Link

Name of development: The Belcher's  
(Photograph taken on: 5/3/2009)

## Hollywood Terrace



A sign at the entrance of the open space  
Name of development: Hollywood Terrace  
(Photograph taken on: 5/3/2009)



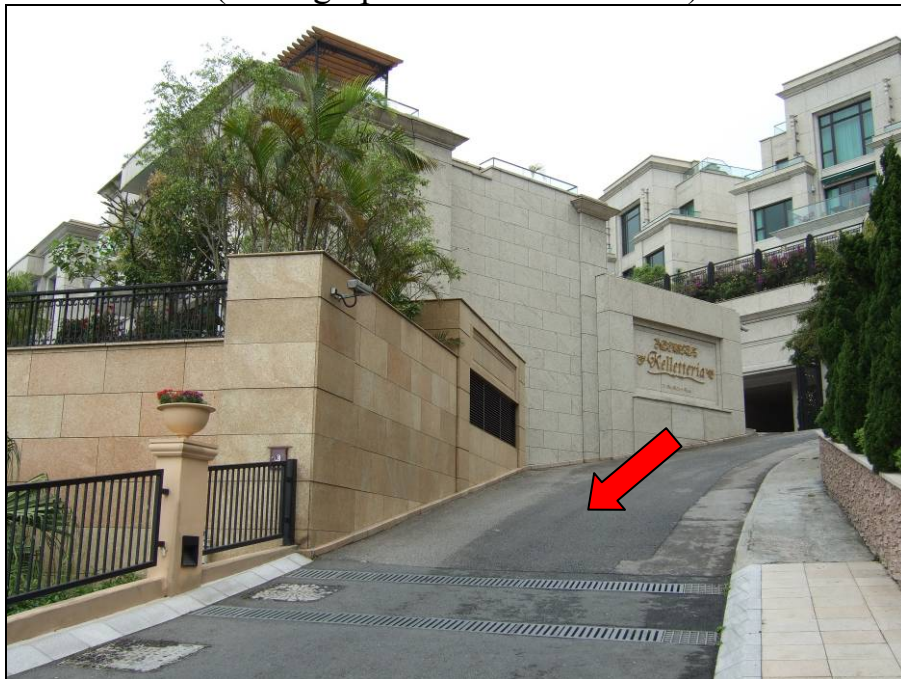
Open Space  
Name of development: Hollywood Terrace  
(Photograph taken on: 5/3/2009)



## Kelletteria



Non-exclusive Right of Way (Upper part)  
Name of development: Kelletteria  
(Photograph taken on: 8/3/2009)

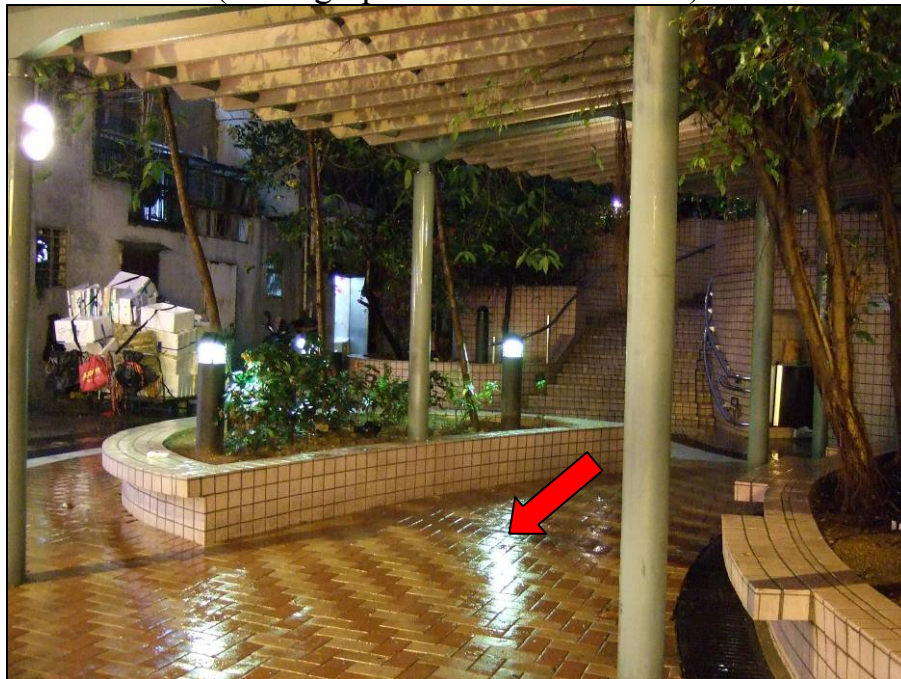


Non-exclusive Right of Way (Lower part)  
Name of development: Kelletteria  
(Photograph taken on: 8/3/2009)

## La Maison Du Nord



A sign erected at the entrance of the open space  
Name of development: La Maison Du Nord  
(Photograph taken on: 5/3/2009)



Open space  
Name of development: La Maison Du Nord  
(Photograph taken on: 5/3/2009)



## 11 Pollock's Path



Non-exclusive Right of Way (Front part)  
Name of development: 11 Pollock's Path  
(Photograph taken on: 8/3/2009)

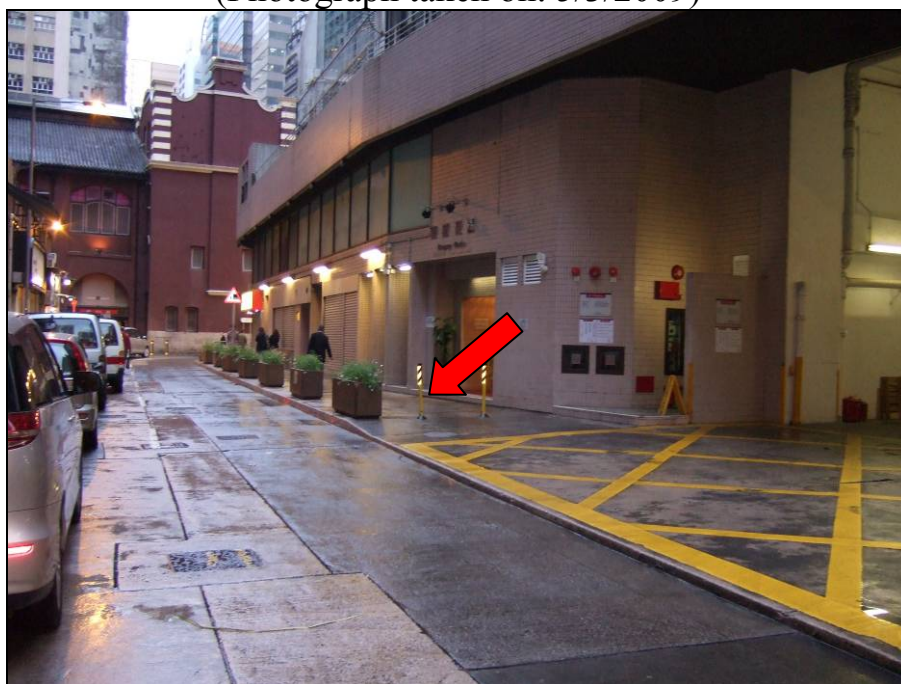


Non-exclusive Right of Way (Rear part)  
Name of development: 11 Pollock's Path  
(Photograph taken on: 8/3/2009)

## Hongway Garden



A sign posted on the external wall of the development  
Name of development: Hongway Garden  
(Photograph taken on: 5/3/2009)



Public Pedestrian Passage  
Name of development: Hongway Garden  
(Photograph taken on: 5/3/2009)



## Bowen Place



Non-exclusive Right of Way  
Name of development: Bowen Place  
(Photograph taken on: 8/3/2009)



Non-exclusive Pedestrian Right of Way  
Name of development: Bowen Place  
(Photograph taken on: 8/3/2009)



## Birchwood Place



Non-exclusive Pedestrian Right of Way (Upper part)  
Name of development: Birchwood Place  
(Photograph taken on: 8/3/2009)

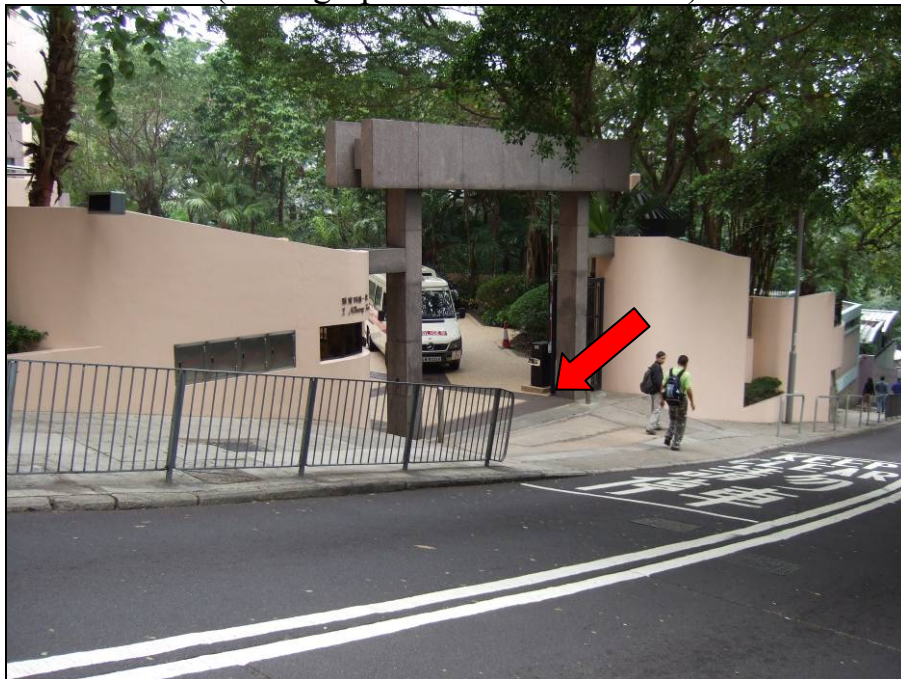


Non-exclusive Pedestrian Right of Way (Lower part)  
Name of development: Birchwood Place  
(Photograph taken on: 8/3/2009)

## The Albany



Non-exclusive Right of Way (Close up)  
Name of development: The Albany  
(Photograph taken on: 8/3/2009)



Non-exclusive Right of Way (Distant view)  
Name of development: The Albany  
(Photograph taken on: 8/3/2009)



## Lascar Court



Public Pedestrian Area (Upper part)  
Name of development: Lascar Court  
(Photograph taken on: 5/3/2009)



Public Pedestrian Area (Lower part)  
Name of development: Lascar Court  
(Photograph taken on: 5/3/2009)



## The Leighton Hill



A sign at the entrance of the open space  
Name of development: The Leighton Hill  
(Photograph taken on: 7/3/2009)



Open space  
Name of development: The Leighton Hill  
(Photograph taken on: 7/3/2009)

## The Zenith



Public Right of Way

Name of development: The Zenith  
(Photograph taken on: 9/3/2009)



Public Pedestrian Passage

Name of development: The Zenith  
(Photograph taken on: 9/3/2009)



## The Grandeur



Pedestrian Passage

Name of development: The Grandeur  
(Photograph taken on: 12/3/2009)

## J Residence



Area for Public Pedestrian and Vehicular Traffic (Close up)

Name of development: J Residence

(Photograph taken on: 9/3/2009)



Area for Public Pedestrian and Vehicular Traffic (Distant view)

Name of development: J Residence

(Photograph taken on: 9/3/2009)



## 8 Shiu Fai Terrace



Area for Public Vehicular and Pedestrian Traffic  
Name of development: 8 Shiu Fai Terrace  
(Photograph taken on: 7/3/2009)



Public Passage  
Name of development: 8 Shiu Fai Terrace  
(Photograph taken on: 7/3/2009)

## Li Chit Garden



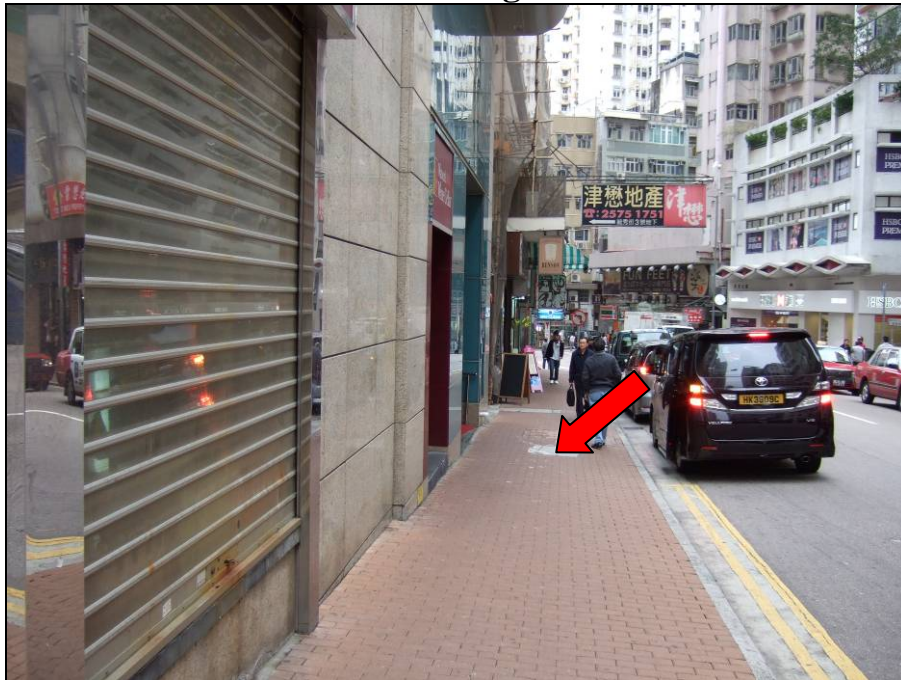
Open space (Close up)  
Name of development: Li Chit Garden  
(Photograph taken on: 7/3/2009)



Open space (Distant view)  
Name of development: Li Chit Garden  
(Photograph taken on: 7/3/2009)



## Le Village



Public Pedestrian Passage (Close up)  
Name of development: Le Village  
(Photograph taken on: 7/3/2009)



Public Pedestrian Passage (Distant view)  
Name of development: Le Village  
(Photograph taken on: 7/3/2009)

## Starcrest



Open Space

Name of development: Starcrest  
(Photograph taken on: 7/3/2009)



Open Space

Name of development: Starcrest  
(Photograph taken on: 7/3/2009)



## Royal Court



Public Pedestrian Passage (Upper part)  
Name of development: Royal Court  
(Photograph taken on: 7/3/2009)



Public Pedestrian Passage (Lower part)  
Name of development: Royal Court  
(Photograph taken on: 7/3/2009)

## Sherwood Court



### Public Car Park (Close up)

Name of development: Sherwood Court

(Photograph taken on: 7/3/2009)



### Public Car Park (Distant view)

Name of development: Sherwood Court

(Photograph taken on: 7/3/2009)



## Nicholson Tower



Non-exclusive Right of Way (Lower part)  
Name of development: Nicholson Tower  
(Photograph taken on: 7/3/2009)



Non-exclusive Right of Way (Upper part)  
Name of development: Nicholson Tower  
(Photograph taken on: 7/3/2009)

## Marina Habitat



### Pedestrian Walkway

Name of development: Marina Habitat  
(Photograph taken on: 12/3/2009)



### Public car park

Name of development: Marina Habitat  
(Photograph taken on: 12/3/2009)



## Ocean Court



Covered Footbridge Link  
Name of development: Ocean Court  
(Photograph taken on: 12/3/2009)



Public Pedestrian way  
Name of development: Ocean Court  
(Photograph taken on: 12/3/2009)

## Grosvenor Place



Non-exclusive Right of Way (Front part)  
Name of development: Grosvenor Place  
(Photograph taken on: 9/3/2009)



Non-exclusive Right of Way (Rear part)  
Name of development: Grosvenor Place  
(Photograph taken on: 9/3/2009)



## Broadview Court



Entrance of the Car Park

Name of development: Broadview Court  
(Photograph taken on: 20/3/2009)



Spaces for Parking of Coaches

Name of development: Broadview Court  
(Photograph taken on: 20/3/2009)

## South Wave Court



Spaces for Parking of Coaches

Name of development: South Wave Court

(Photograph taken on: 20/3/2009)



Lay-by

Name of development: South Wave Court

(Photograph taken on: 20/3/2009)



## Villa Rosa



Non-exclusive Right of Way (Front part)  
Name of development: Villa Rosa  
(Photograph taken on: 7/3/2009)



Non-exclusive Right of Way (Rear part)  
Name of development: Villa Rosa  
(Photograph taken on: 7/3/2009)

## The Beachside



Non-exclusive Right of Way (Front part)  
Name of development: The Beachside  
(Photograph taken on: 5/3/2009)



Non-exclusive Right of Way (Rear part)  
Name of development: The Beachside  
(Photograph taken on: 5/3/2009)



## Carmel Hill



Non-exclusive Right of Way (Front part)

Name of development: Carmel Hill

(Photograph taken on: 5/3/2009)

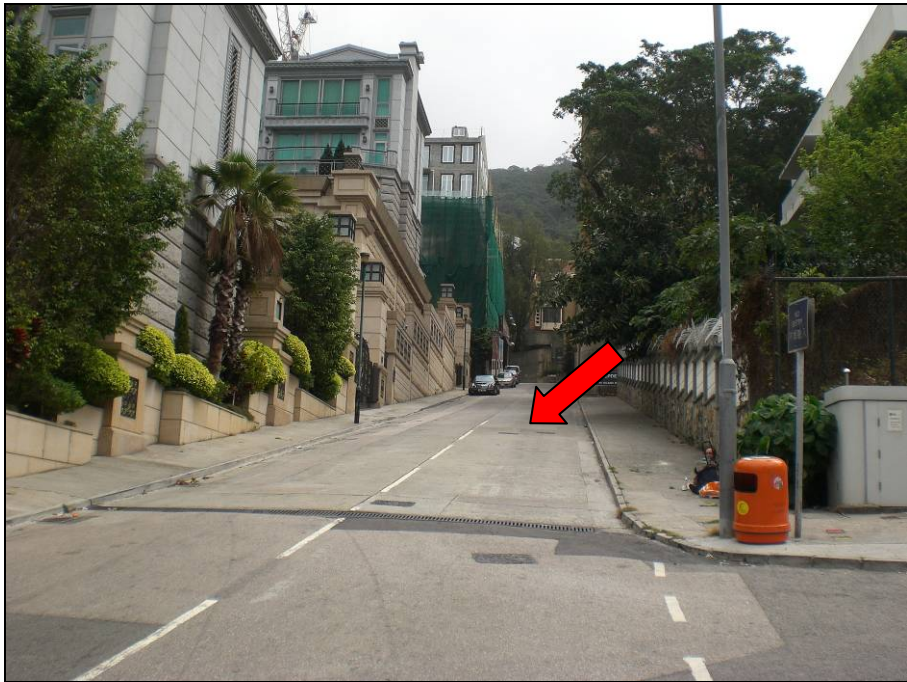


Non-exclusive Right of Way (Rear part)

Name of development: Carmel Hill

(Photograph taken on: 5/3/2009)

## 45 & 47 Island Road



Non-exclusive Right of Way (Front part)  
Name of development: 45 & 47 Island Road  
(Photograph taken on: 5/3/2009)



Non-exclusive Right of Way (Rear part)  
Name of development: 45 & 47 Island Road  
(Photograph taken on: 5/3/2009)



## South Horizons



Public Right of Way  
Name of development: South Horizons  
(Photograph taken on: 14/3/2009)



Public Toilet  
Name of development: South Horizons  
(Photograph taken on: 14/3/2009)

## South Horizons



Non-exclusive Right of Way  
Name of development: South Horizons  
(Photograph taken on: 14/3/2009)



Non-exclusive Right of Way  
Name of development: South Horizons  
(Photograph taken on: 14/3/2009)



## South Horizons



Non-exclusive Right of Way  
Name of development: South Horizons  
(Photograph taken on: 14/3/2009)



Non-exclusive Right of Way  
Name of development: South Horizons  
(Photograph taken on: 14/3/2009)

## South Horizons



Non-exclusive Right of Way  
Name of development: South Horizons  
(Photograph taken on: 14/3/2009)



Non-exclusive Right of Way  
Name of development: South Horizons  
(Photograph taken on: 14/3/2009)



## Belgravia



Non-exclusive Right of Way (Close up)  
Name of development: Belgravia  
(Photograph taken on: 5/3/2009)



Non-exclusive Right of Way (Distant view)  
Name of development: Belgravia  
(Photograph taken on: 5/3/2009)

## The Brentwood



Non-exclusive Right of Way (Front part)  
Name of development: The Brentwood  
(Photograph taken on: 5/3/2009)



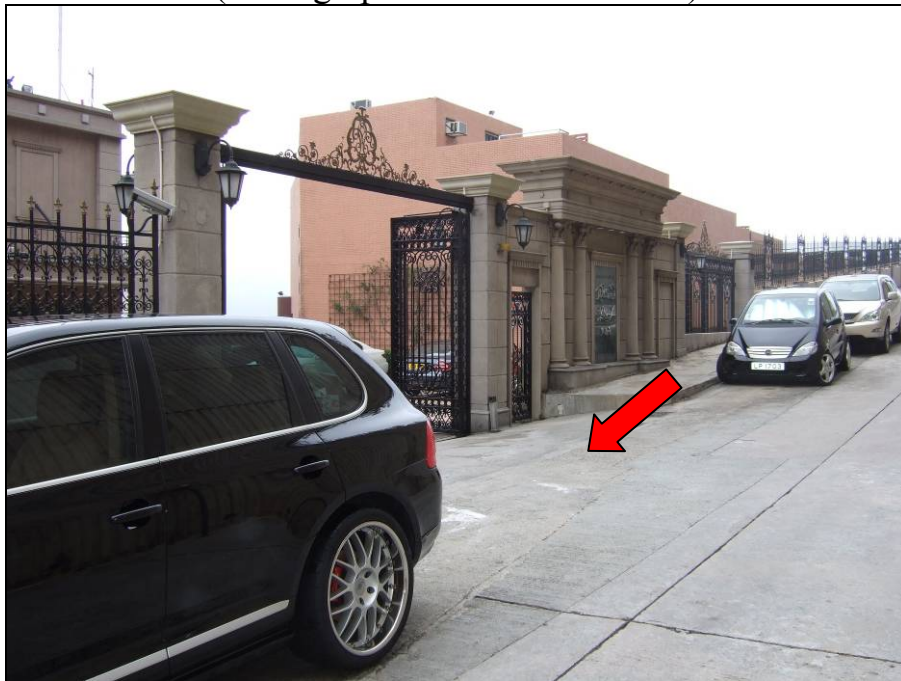
Non-exclusive Right of Way (Rear part)  
Name of development: The Brentwood  
(Photograph taken on: 5/3/2009)



## Bellevue Place



Non-exclusive Right of Way (Front part)  
Name of development: Bellevue Place  
(Photograph taken on: 5/3/2009)



Non-exclusive Right of Way (Rear part)  
Name of development: Bellevue Place  
(Photograph taken on: 5/3/2009)



## Island Resort



Covered Footbridge Link (including Structural supports and connecting)  
Name of development: Island Resort  
(Photograph taken on: 7/3/2009)



Pedestrian Access Way  
Name of development: Island Resort  
(Photograph taken on: 7/3/2009)

## Island Resort



Pedestrian Access Way  
Name of development: Island Resort  
(Photograph taken on: 7/3/2009)



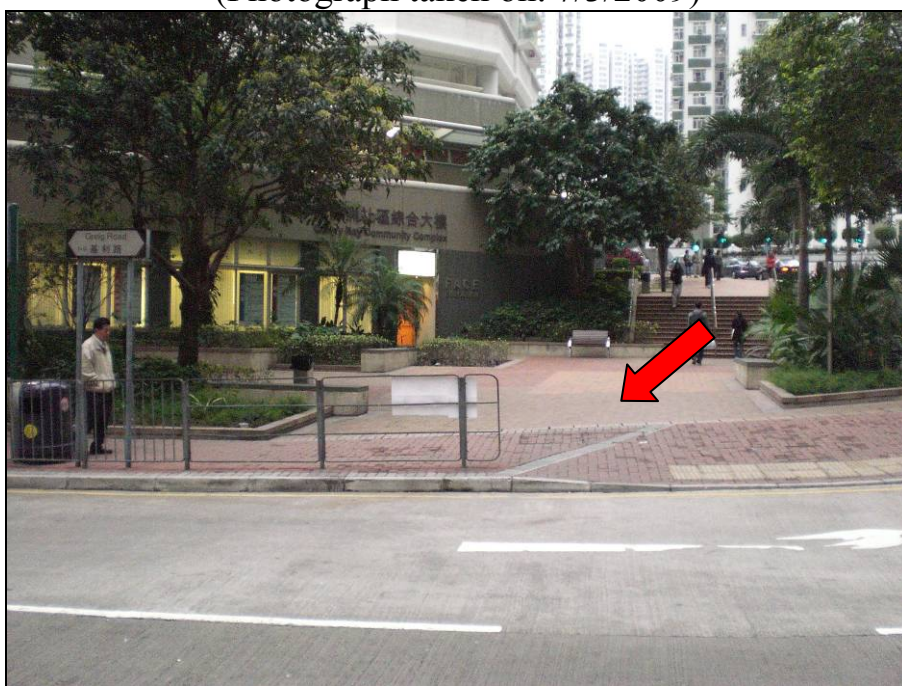
Public Car Park  
Name of development: Island Resort  
(Photograph taken on: 7/3/2009)



## The Orchards



Open Space (Close up)  
Name of development: The Orchards  
(Photograph taken on: 7/3/2009)



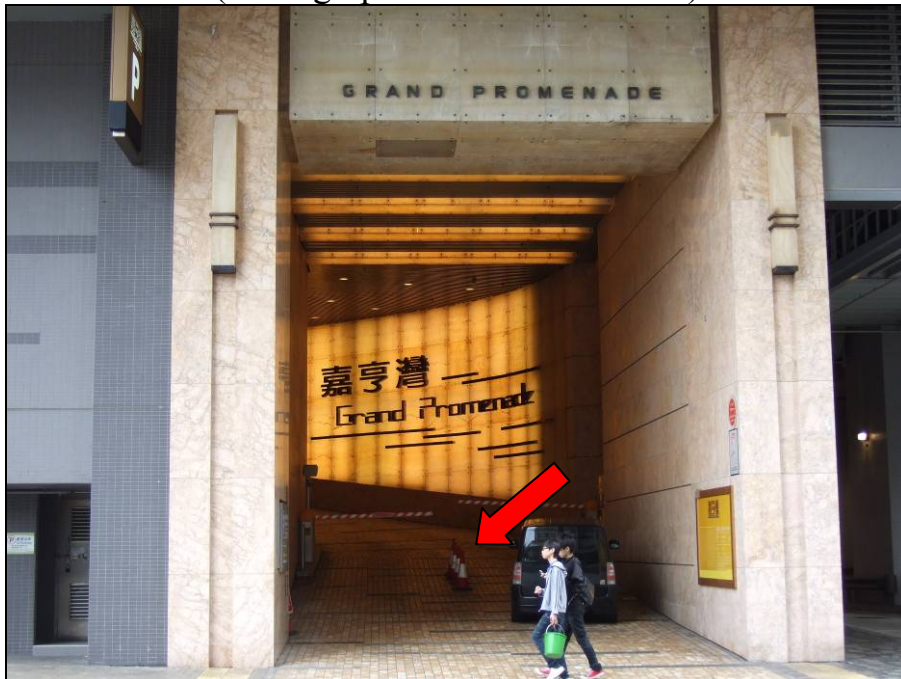
Open Space (Distant view)  
Name of development: The Orchards  
(Photograph taken on: 7/3/2009)

## Grand Promenade



Open Space

Name of development: Grand Promenade  
(Photograph taken on: 7/3/2009)



Public Car Park

Name of development: Grand Promenade  
(Photograph taken on: 7/3/2009)



## Grand Promenade



Dedicated Areas for Public Pedestrian Passage  
Name of development: Grand Promenade  
(Photograph taken on: 7/3/2009)



Paved Pedestrian Way  
Name of development: Grand Promenade  
(Photograph taken on: 7/3/2009)

## Mount Parker Lodge



Non-exclusive Vehicular Right of Way  
Name of development: Mount Parker Lodge  
(Photograph taken on: 7/3/2009)



Non-exclusive Pedestrian Right of Way  
Name of development: Mount Parker Lodge  
(Photograph taken on: 7/3/2009)



## Island Place



### Open Space

Name of development: Island Place

(Photograph taken on: 7/3/2009)

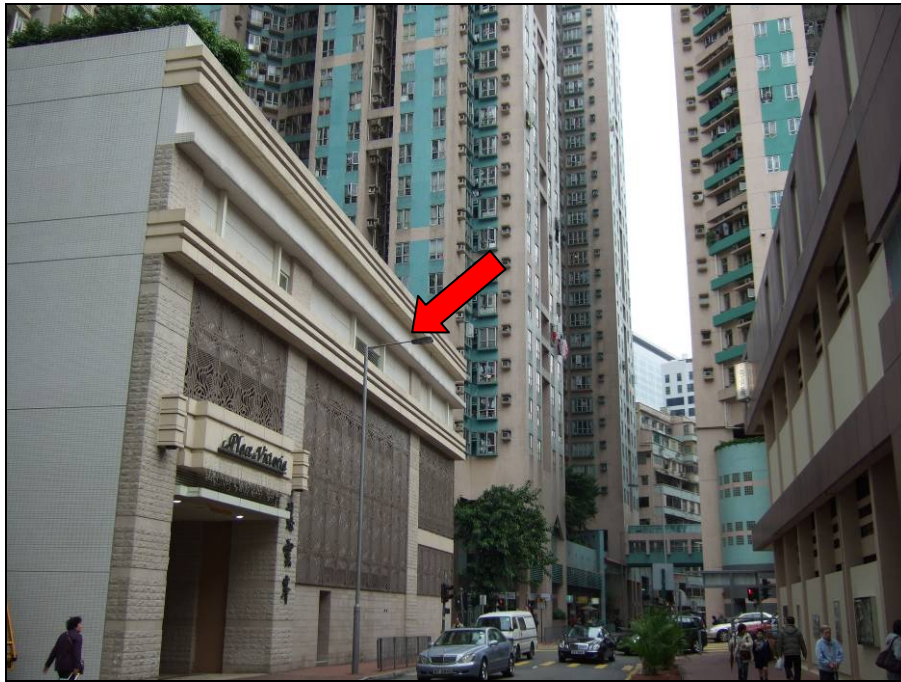


Reserved Area (being used as Pedestrian Walkway/Taxi Stand)

Name of development: Island Place

(Photograph taken on: 7/3/2009)

## La Place de Victoria



Footbridge Links (Not yet construct)  
Name of development: La Place de Victoria  
(Photograph taken on: 7/3/2009)



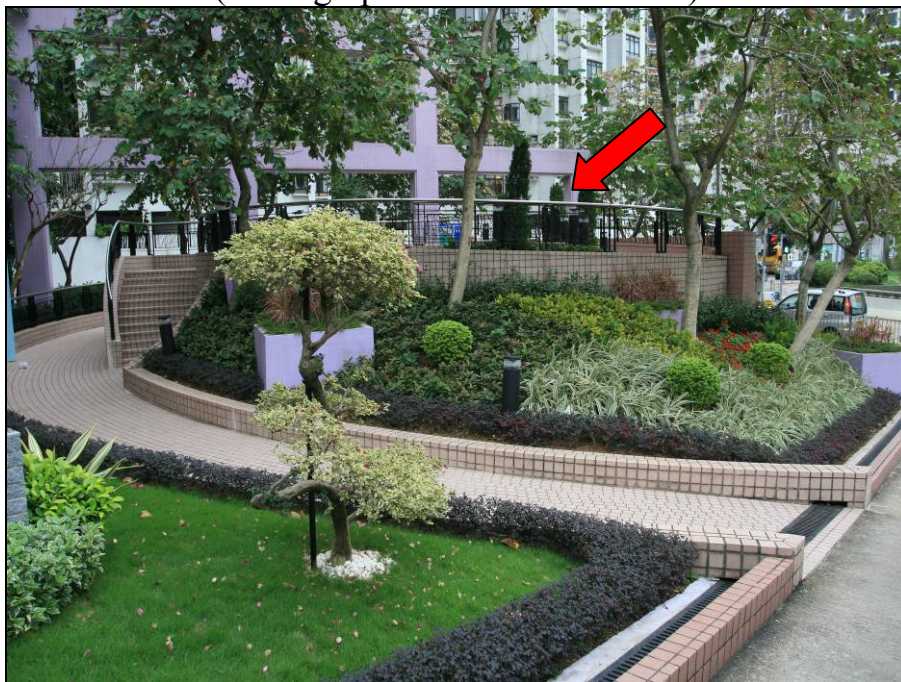
Footbridge Links (Not yet construct)  
Name of development: La Place de Victoria  
(Photograph taken on: 7/3/2009)



## The Floridian



Open Space (Close up)  
Name of development: The Floridian  
(Photograph taken on: 7/3/2009)



Open Space (Distant view)  
Name of development: The Floridian  
(Photograph taken on: 7/3/2009)



## Dragon Pride



Footpath

Name of development: Dragon Pride  
(Photograph taken on: 7/3/2009)



Footpath

Name of development: Dragon Pride  
(Photograph taken on: 7/3/2009)



## Le Sommet



Open Space (Close up)  
Name of development: Le Sommet  
(Photograph taken on: 7/3/2009)



Open Space (Distant view)  
Name of development: Le Sommet  
(Photograph taken on: 7/3/2009)

## Aldrich Garden



Public Pedestrian Passage  
Name of development: Aldrich Garden  
(Photograph taken on: 7/3/2009)



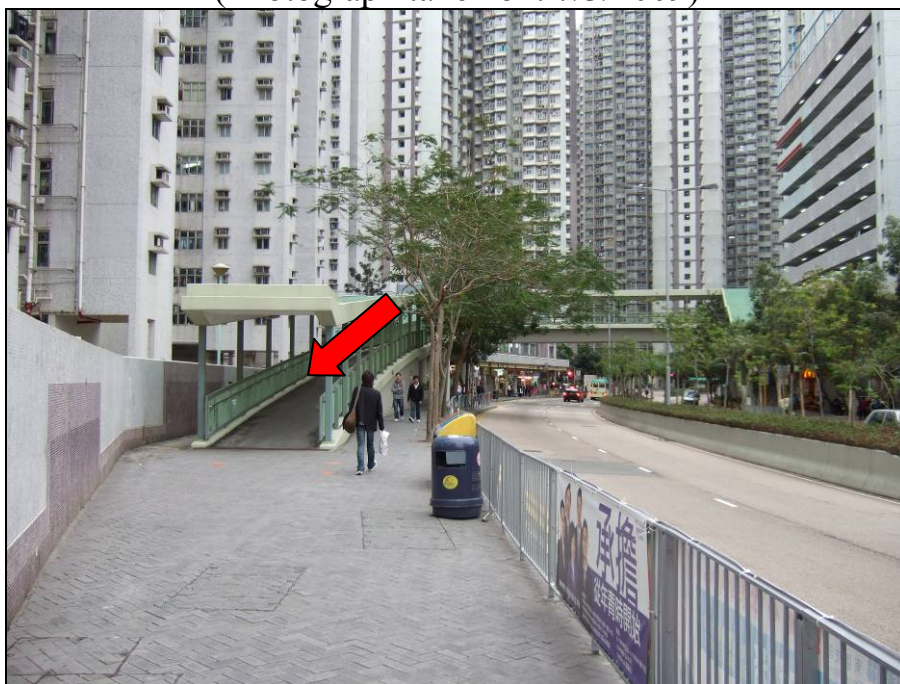
Lifts and Staircases  
Name of development: Aldrich Garden  
(Photograph taken on: 7/3/2009)



## Fullview Garden



Pedestrian Way Passage (Close up)  
Name of development: Fullview Garden  
(Photograph taken on: 7/3/2009)



Pedestrian Way Passage (Distant view)  
Name of development: Fullview Garden  
(Photograph taken on: 7/3/2009)

## Cheerful Garden



Pedestrian Way Passage (Close up)  
Name of development: Cheerful Garden  
(Photograph taken on: 7/3/2009)



Pedestrian Way Passage (Distant view)  
Name of development: Cheerful Garden  
(Photograph taken on: 7/3/2009)



### Lok Hin Terrace



A sign on the external wall of the development  
Name of development: Lok Hin Terrace  
(Photograph taken on: 7/3/2009)

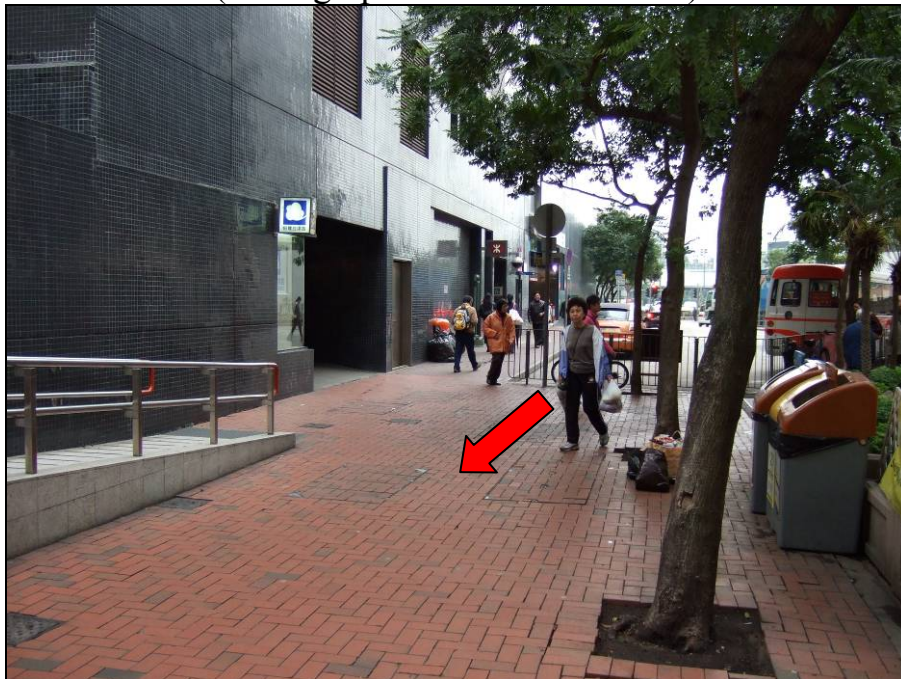


Footbridge (not yet construct)  
Name of development: Lok Hin Terrace  
(Photograph taken on: 7/3/2009)

## Park Towers



Pedestrian Passage  
Name of development: Park Towers  
(Photograph taken on: 7/3/2009)



Pedestrian Passage  
Name of development: Park Towers  
(Photograph taken on: 7/3/2009)



## Tanner Garden



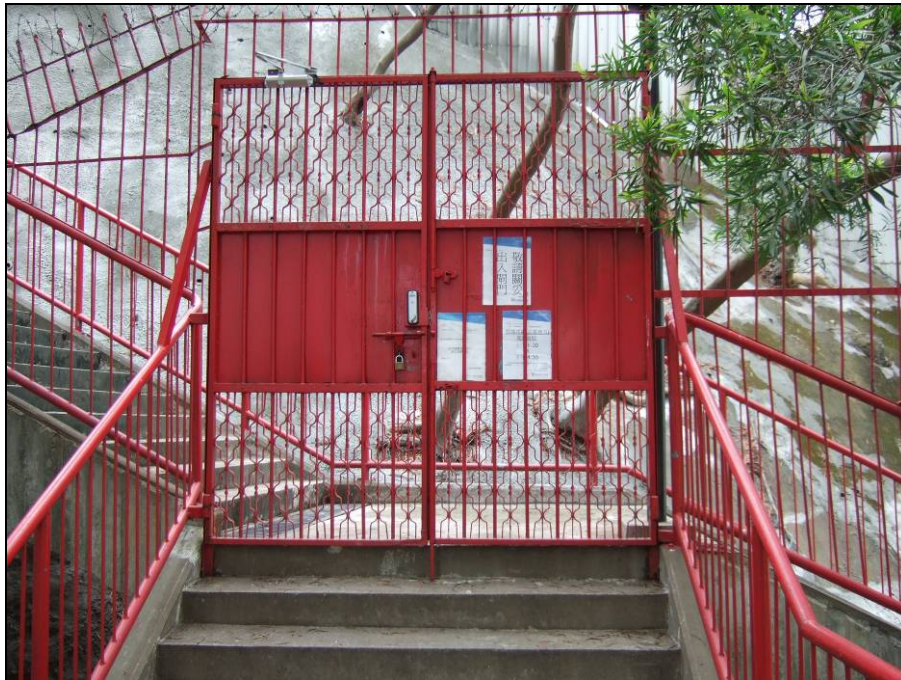
Open Space (Close up)  
Name of development: Tanner Garden  
(Photograph taken on: 7/3/2009)



Open Space (Distant view)  
Name of development: Tanner Garden  
(Photograph taken on: 7/3/2009)



## Tanner Garden



Open Space (entrance)  
Name of development: Tanner Garden  
(Photograph taken on: 7/3/2009)



Open Space  
Name of development: Tanner Garden  
(Photograph taken on: 7/3/2009)



## Tanner Garden



Public Vehicular and Pedestrian Passage (Close up)  
Name of development: Tanner Garden  
(Photograph taken on: 7/3/2009)



Public Vehicular and Pedestrian Passage (Distant view)  
Name of development: Tanner Garden  
(Photograph taken on: 7/3/2009)

## Fortress Metro Tower



A sign posted on the external wall of the development  
Name of development: Fortress Metro Tower  
(Photograph taken on: 7/3/2009)



Footbridge Link  
Name of development: Fortress Metro Tower  
(Photograph taken on: 7/3/2009)



## Lei King Wan



Public Pedestrian Footpath  
Name of development: Lei King Wan  
(Photograph taken on: 7/3/2009)



Street Widening (Corner)  
Name of development: Lei King Wan  
(Photograph taken on: 7/3/2009)

## Perfect Mount Gardens



A sign posted on the external wall of the development  
Name of development: Perfect Mount Gardens  
(Photograph taken on: 7/3/2009)



Public Pedestrian Passage  
Name of development: Perfect Mount Gardens  
(Photograph taken on: 7/3/2009)



## Felicity Garden



Passage Area

Name of development: Felicity Garden  
(Photograph taken on: 7/3/2009)



Footbridge Connection and Stairway  
Name of development: Felicity Garden  
(Photograph taken on: 7/3/2009)

## Kornhill Garden



Covered Pedestrian Footbridge  
Name of development: Kornhill Garden  
(Photograph taken on: 7/3/2009)



## Kornhill



Public Passage

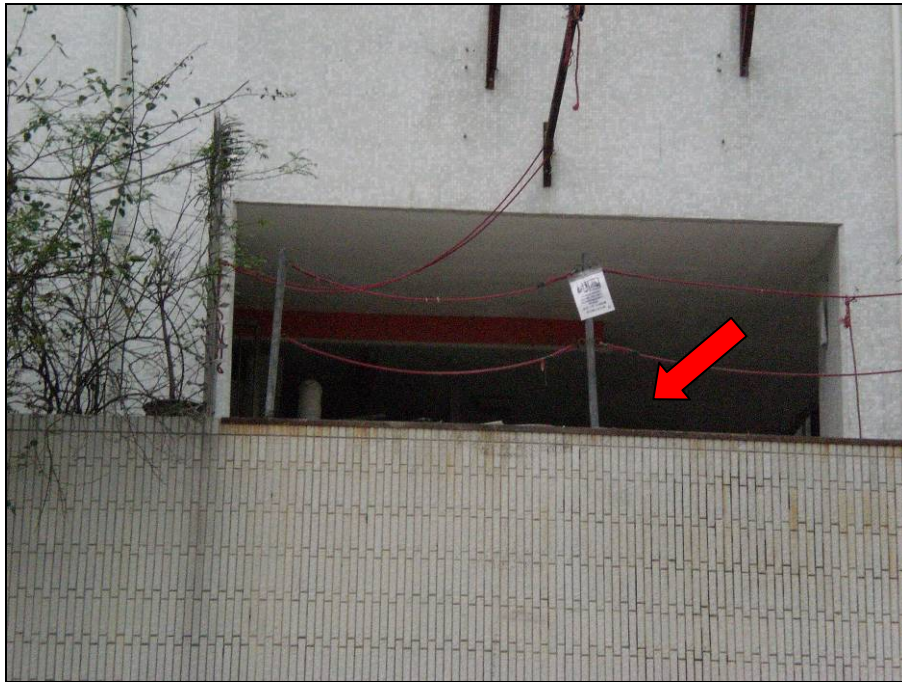
Name of development: Kornhill  
(Photograph taken on: 7/3/2009)



Public Passage

Name of development: Kornhill  
(Photograph taken on: 7/3/2009)

## Parkvale



Footbridge Connection and Supports (Close up) (not yet construct)

Name of development: Parkvale

(Photograph taken on: 7/3/2009)



Footbridge Connection and Supports (Distant view) (not yet construct)

Name of development: Parkvale

(Photograph taken on: 7/3/2009)



## New Jade Gardens



Passage area

Name of development: New Jade Gardens  
(Photograph taken on: 7/3/2009)



Stairway and Pedestrian Ramp

Name of development: New Jade Gardens  
(Photograph taken on: 7/3/2009)



## Heng Fa Chuen



Public Walkways (Close up)  
Name of development: Heng Fa Chuen  
(Photograph taken on: 7/3/2009)



Public Walkways (Distant view)  
Name of development: Heng Fa Chuen  
(Photograph taken on: 7/3/2009)

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